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Print Program****J. D. Drinan****9 March 1966**

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MASSACHUSETTS INSTITUTE OF TECHNOLOGY
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HAYSTACK POINTING SYSTEM: PRINT PROGRAM

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Group 62

TECHNICAL NOTE 1966-11

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ABSTRACT

During the operation of the Haystack Pointing System, variable amounts of system generated data are recorded on magnetic tape for purposes of later reconstruction of the pointing aspect of the experiment. The Print Program, a pseudo-celestial computation program, is the means whereby this system data, recorded during actual system operation or during a system planning run, is reconstituted in the form of print-outs for immediate inspection or as BCD magnetic tape equivalents of the print-outs for remote printing and for input to other programs. The Print Program provides a variety of operation options which can be altered dynamically.

Accepted for the Air Force
Franklin C. Hudson
Chief, Lincoln Laboratory Office

HAYSTACK POINTING SYSTEM: PRINT PROGRAM

INTRODUCTION

The Print Program (PP) is the means whereby system data, recorded on magnetic tape during actual system operation or during a system planning run, is converted to on-line print-outs for visual inspection and to BCD magnetic tape equivalents of the print-outs for remote printing as well as for input to other programs.

PP resides on the master bootstrap tape as a pseudo-celestial computation program as a matter of convenience in calling the program to operate after system operation is completed.

PP uses the Printer Package* subroutine and a right ascension-declination conversion routine adapted from the Right Ascension-Declination Display Program.[†]

INPUT

Primary input to PP is the system produced high density (556 ℓ pi) binary tape written by the system subprogram RECORDING.[‡] PP is concerned with only two types of records on this tape. The first type is the so-called title record which contains the titling information supplied by the experimenter and certain other pertinent data. This record is viewed by PP as a "logical file" separator and is recognized as such by the fact that the first word contains the five Fieldata character representation of TITLE. The second type is the record which contains all of or a selected part of the portions of Common Storage (C/S) necessary to produce the desired output. The first word identifier for this record is MCPGM.

These two classes of records contain all of standard system generated information necessary to reconstruct the pointing aspect of the experiment. Data processing programs are free to avail themselves of the recording facility provided by the system and thereby record information on the system data recording tape. PP, however, was designed to interpret the format unique to the system data and consequently ignores non-system records.

*See Reference 1.

†See Reference 2.

‡See Reference 3.

Input information to PP is also supplied by the user via the keyboard. This will be discussed in the Operation section below.

OUTPUT

The user may elect to get his print-out directly on the high-speed printer or he may choose to produce an IBM-compatible BCD magnetic tape or he may get both of these simultaneously. Various control options which govern the format and amount of output are offered. These are discussed in the Operation section below.

Figure 1 shows a sample output of the program. The labeling and the units used are described in Appendix A.

OPERATION

The Print Program is a non-real-time program which is normally called to operation after the dynamic system has completed a run and has produced a magnetic tape recording which serves as input to PP. The usual manner in which the Master Control Program* (MCP) brings PP into core memory from the master bootstrap tape is via the attention symbol sequence.

Once MCP has read PP into core the role of control program is taken over by PP. This arrangement makes it possible for the user to communicate via the attention symbol with PP as the recorded data is being processed in the very same manner as the experimenter was able to communicate with MCP while the experiment was in progress.

When PP assumes control then, one of the very first things done is the setting up of a new intercom interlace[†] establishing PP as the control program. From this point until a return is made to the system proper, hitting the attention key will cause the following typeout:

```
TO SYSTEM(0) NEXT 'FILE'(1) NEW TIMES(2)
```

If the user elects choice (0) an exit is made to MCP and the system is ready for the next experiment with the recording tape returned to the load point for re-recording.

*See Reference 4.

†See Reference 4 and 5.

LES II

										FRIJAY	MAY 21, 1965	SATELLITE SYSTM	
HH MM SS	RA(DEC)	DEC(DEC)	DISTANCE	DISTDOT	RADOT	AZIM	ELEV	CAZIM	TRUERANGE	RA(HMS)	DEC(DMS)		
19 26 55	42.7534	10.4070	2.83677363	-0.80338	1.8777370	254.2753	11.1016	254.2753	2.4691207	2 51 0.83	10 24 25.3		
SRA SDEC													
42.7534	10.4070	CRANGE		RANGEDOT	DECDOT	SAZIM	SELEV	CELEV	SIDERTIME				
		525105	-0.77916	-1.1089678	254.2753	11.1016	11.2020	99.4627					

TIME	INCOMING	COMMAND	RECV D R/A	RECV D DECLN	COMND R/A	COMND DECLN	COMND DOPLR	MODES
SECS	AZIMUTH ELEVATION	AZIMUTH ELEVATION	HH MM SS.SS	DDD MM SS.S	HH MM SS.SS	DDD MM SS.S	CYCLES/SEC.	ABCDE
0.000*254.2751	11.2019	2 51 15.25	10 27 49.7	2 51 15.25	10 27 49.7	74567		
0.400*254.2710	11.2012	2 51 16.15	10 27 39.2	2 51 16.15	10 27 39.2	74572		
0.800*254.2669	11.2006	2 51 17.5	10 27 28.6	2 51 17.5	10 27 28.6	74578		
1.200*254.2623	11.2004	2 51 18.4	10 27 19.5	2 51 18.14	10 27 18.0	74583		
1.600*254.2580	11.1999	2 51 19.4	10 27 7.5	2 51 19.4	10 27 7.5	74588		

LES II

										FRIJAY	MAY 21, 1965	SATELLITE SYSTM	
HH MM SS	RA(DEC)	DEC(DEC)	DISTANCE	DISTDOT	RADOT	AZIM	ELEV	CAZIM	TRUERANGE	RA(HMS)	DEC(DMS)		
19 26 57	42.7753	10.3943	2.83630705	-0.80177	1.8782773	254.2538	11.0986	254.2538	2.4686687	2 51 6.8	10 23 39.5		
SRA SDEC													
42.7753	10.3943	CRANGE		RANGEDOT	DECDOT	SAZIM	SELEV	CELEV	SIDERTIME				
		525009	-0.77843	-1.1094618	254.2538	11.0986	11.1991	99.4711					

TIME	INCOMING	COMMAND	RECV D R/A	RECV D DECLN	COMND R/A	COMND DECLN	COMND DOPLR	MODES
SECS	AZIMUTH ELEVATION	AZIMUTH ELEVATION	HH MM SS.SS	DDD MM SS.S	HH MM SS.SS	DDD MM SS.S	CYCLES/SEC.	ABCDE
0.000*254.2538	11.1992	2 51 20.49	10 27 4.8	2 51 20.49	10 27 4.8	74593		
0.400*254.2497	11.1985	2 51 21.39	10 26 54.3	2 51 21.39	10 26 54.3	74598		
0.800*254.2456	11.1978	2 51 22.29	10 26 43.8	2 51 22.39	10 26 42.2	74604		
1.200*254.2408	11.1971	2 51 23.28	10 26 31.7	2 51 23.28	10 26 31.7	74609		
1.600*254.2367	11.1964	2 51 24.18	10 26 21.2	2 51 24.18	10 26 21.2	74614		

Fig. 1. Sample output of Print Program.

A choice of (1) will cause PP to search for the next logical file on the recording tape identified by the code word TITLE as the first word in the record. When the next "file" is located PP will issue a subset of the typeouts and questions that are output when the first logical file is about to be processed. (This set of typeouts is described below.) When "new times", choice (2) is elected PP will initiate another subset of the original line of questioning.

The balance of this memo concerns itself with question-answer sequence one encounters when using PP to process the system data tape. At this point we shall assume that the experiment has been concluded and the user has directed the control program to load PP into memory.

At the outset, PP now established as the control program senses whether or not the recording program has finalized the recording tape and if not will ask:

TAPE IS OK(0) REWIND IT(1) END FILE & REWIND(2)

PP will take whatever action is indicated by the user. Now the question of output media comes up, whether direct high-speed printer or BCD tape or both - hence the question:

ELECT O/P...HSP(0) BCD TAPE(1) BOTH(2)

Here, of course, the user must indicate the type of output(s) he desired.

Next, as a memory jog, the typeout:

SET TOP OF PAGE CLEAR PRINTER CHANNEL

Now PP begins a search of the tape for the first TITLE record. When it is located PP prepares the heading record which appears ahead of each frame. In Fig. 1 this is the line containing LES 2 as the titling information along with Friday May 21, 1964 SATELLITE SYSTM, the other pertinent information in the title record. At this point PP types out:

TITLE FOLLOWS

followed by the actual titling information entered earlier by the experimenter. In the example at hand this would be:

LES II

Now comes the question:

GMT START(HHMMSS)

to which the user may enter a time to start (and PP will skip over previously recorded data) or he may implicitly state "at the beginning" by simply answering with a carriage return. Next comes the companion question:

GMT END(HHMMSS)

and here again the user may elect a specific time to stop or implicitly indicate "to the end" with the carriage return reply. Now the question:

FOR EVERY NTH DATUM ENTER N(0-500)

Here the user must indicate how much (if any) of the interpolated data he wishes to be printed out. For every frame (2 seconds in real time) there are available the directly computed quantities as well as 500 interpolated command azimuth and elevation angles, the corresponding 500 incoming azimuth and elevation angles plus 500 interpolated doppler values. If the user wishes every interpolated point to be printed, he would enter N as 1 and every 1th point is output. On the other hand, if he chose N as 500 he would see only the first interpolated point (as well as the entire array of 2 second computed data whose output is non selectable). By convention N = 0 will eliminate all interpolated data from the output.

At this point, PP is ready to commence processing the data on the recording tape. In a steady state condition PP is time equating data which appeared in three separate input records. For the incoming azimuth and elevation angles, the record just read in is used; for the command azimuth and elevation angles the penultimate record is the source and for the two second directly computed values the data saved from the third record back is used.

In general, the program will continue to cycle and output in this manner until one of four things occur. The first, an end of file mark on the input tape will result in the typeout:

END OF FILE...RETURNING TO SYSTEM

Here control is returned to MCP, the input tape is returned to the load point and the system is ready to recycle.

The second source of interruption occurs when PP has come to a specified time to stop (GMT END(HHMMSS)).

In this case PP types out:

DONE....

followed by the timeout normally occasioned by striking the attention key i.e.

TO SYSTEM(0) NEXT 'FILE'(1) NEW TIMES(2)

Again the user must decide what is to be done.

The next way in which the cycle is disrupted occurs when PP encounters a new "logical file" on the input tape. This causes PP to terminate processing on the current file and proceed with the timeout/question sequence starting with

TITLE FOLLOWS

The remaining way in which processing is interrupted is, of course, by the user himself striking the attention key.

The flow diagram and listing of the Print Program follow Appendix A.

APPENDIX A

The sample print-out in Fig. 1 shows 4 seconds worth of real-time pointing information in two 2 second frames. Each frame begins with a title line which gives the identification information (here the caption LES II) supplied by the user followed by the day of the week, the date and the particular celestial computation program chosen by the user.

The pointing information for each frame is broken down into two categories, the "two second" direct-computation data followed by the interpolated data.

Two Second Data

HHMMSS	...	Greenwich mean time at the start of the frame. (Time in C/S TRUETIME). This is the reference time for this frame.
RA(DEG)		and further to the right of the page on the same line
RA(HMS)	...	Right ascension of the body at reference time in degrees and in hours, minutes, and seconds respectively.
DEC(DEG)		and further to the right of the page on the same line
DEC(DMS)	...	Declination of the body at reference time in degrees and in degrees, minutes and seconds respectively.
DISTANCE	...	The distance from geocenter to center of the body at reference time in earth radii for near-earth satellites and the moon; in astronomical units for the sun and planets. For stars an arbitrary zero is printed.
DISTDOT	...	Numerical derivative of DISTANCE in nautical miles per second.
RADOT	...	Numerical derivative of right ascension in radians per second. N.B. This quantity is taken from C/S register RADOT which contains $\dot{\alpha} \cos \delta$. A planned change to PP will remove the $\cos \delta$ factor.
AZIM	...	Computed azimuth in degrees.
ELEV	...	Computed elevation in degrees.
CAZIM	...	AZIM with corrections in degrees.
TRUERANGE	...	Range of the body from the site with same units conventions described under DISTANCE.
SRA	...	Right ascension in degrees with scan added.

SDEC	...	Declination in degrees with scan added.
CRANGE	...	Corrected range in radar units.
RANGEDOT	...	Time derivative of range in nautical miles per second.
DECDOT	...	Time derivative of declination in radians per second.
SAZIM	...	Azimuth in degrees with scan added.
SELEV	...	Elevation in degrees with scan added.
CELEV	...	Elevation in degrees with corrections added.
SIDERTIME	...	Right ascension of the site in degrees at CONVERTIME.

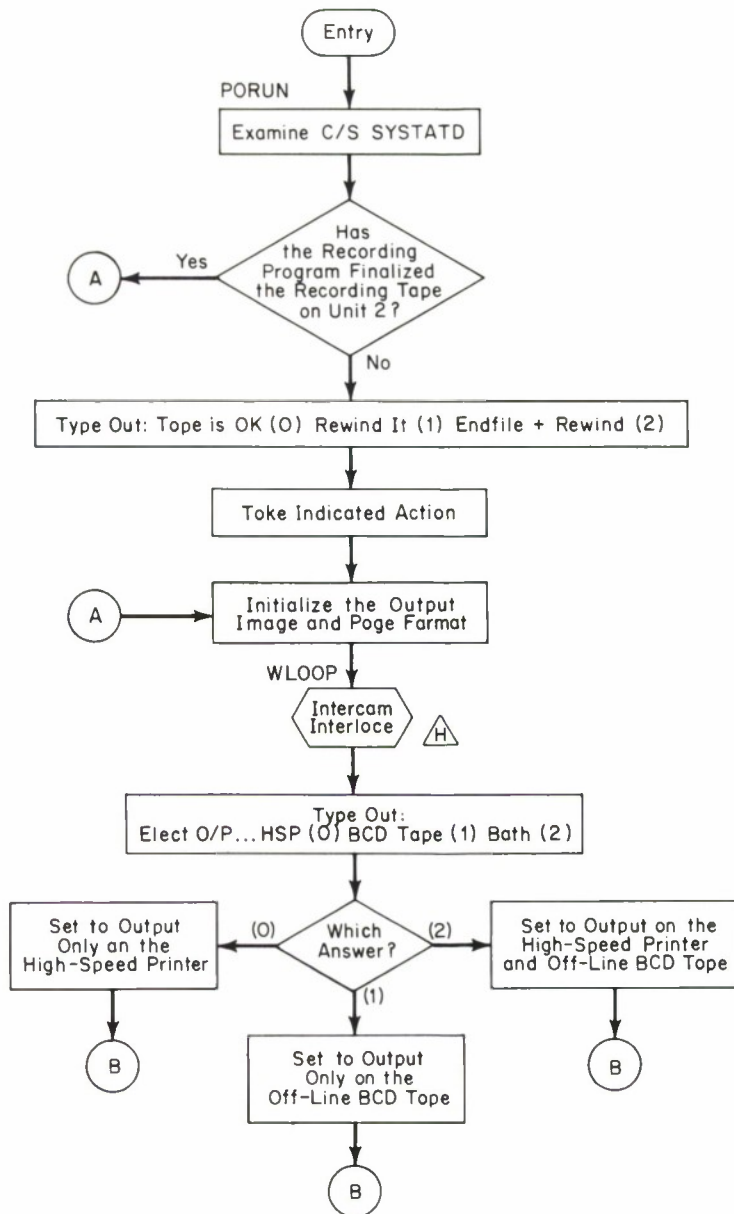
Interpolated Data

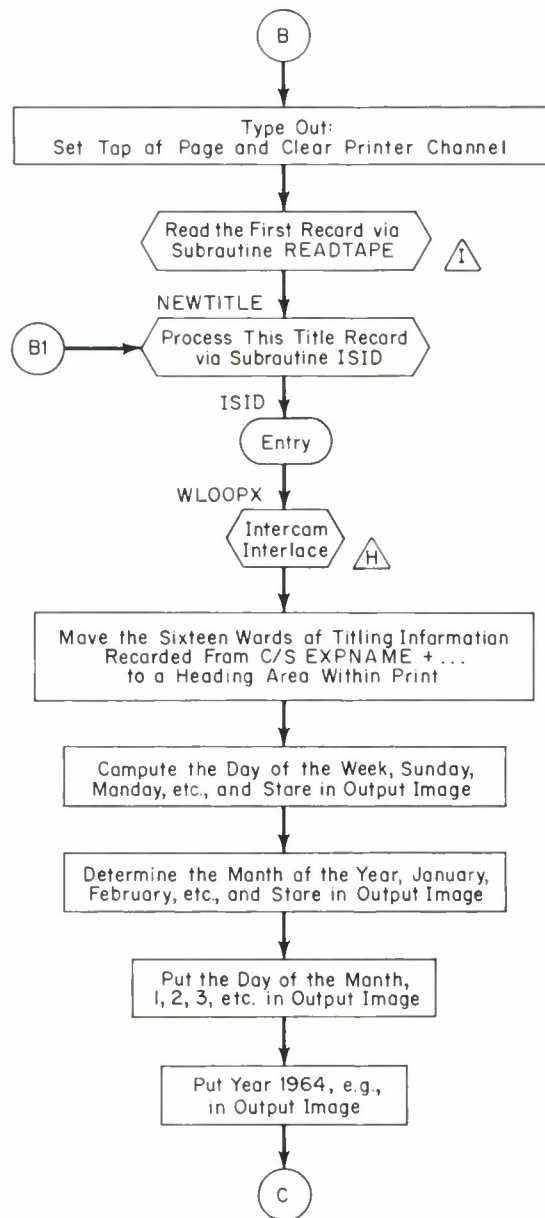
TIME SECS	...	Elapsed time in seconds (for real time) from HH MM SS (TRUETIME given above).
INCOMING AZIMUTH	...	Actual antenna position in degrees at indicated time. An * preceding the value indicates azimuth overlap zone.
INCOMING ELEVATION	...	Analogous to incoming azimuth.
COMMAND AZIMUTH	...	Interpolated azimuth value in degrees sent to the antenna at the indicated time.
COMMAND ELEVATION	...	Analogous to azimuth.
RECVD R/A HH MM SS.SS and RECVD DECLN DDD MM SS.S	...	Actual antenna position in the right ascension-declination coordinate system.
COMND R/A HH MM SS and COMND DECLN DDD MM SS.S	...	The position in celestial coordinates to which the antenna was being directed.

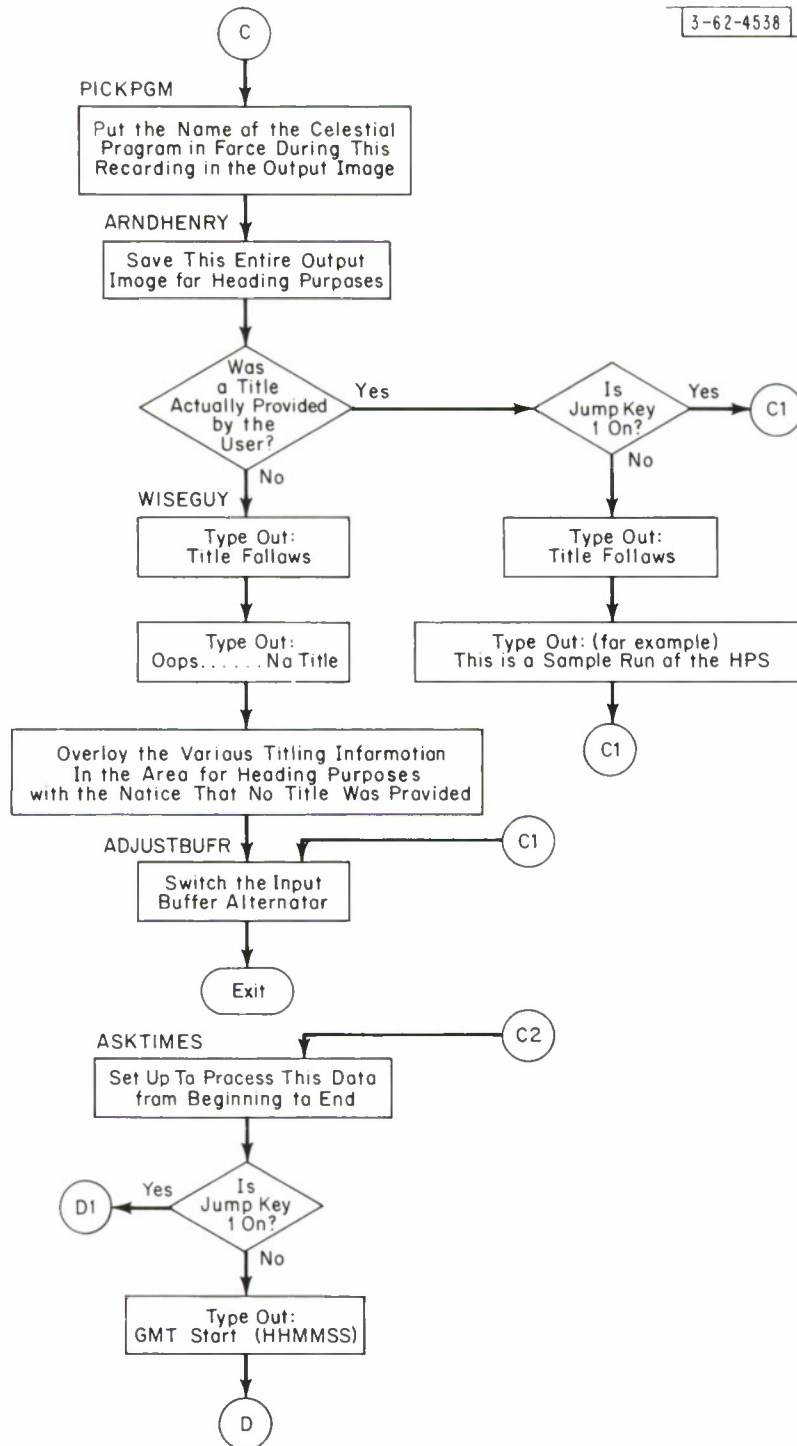
CMND DOPLR
CYCLES/SEC ... Doppler frequency in cycles per second.
MODES
ABCDE ... Mode switches setting. Not currently used.

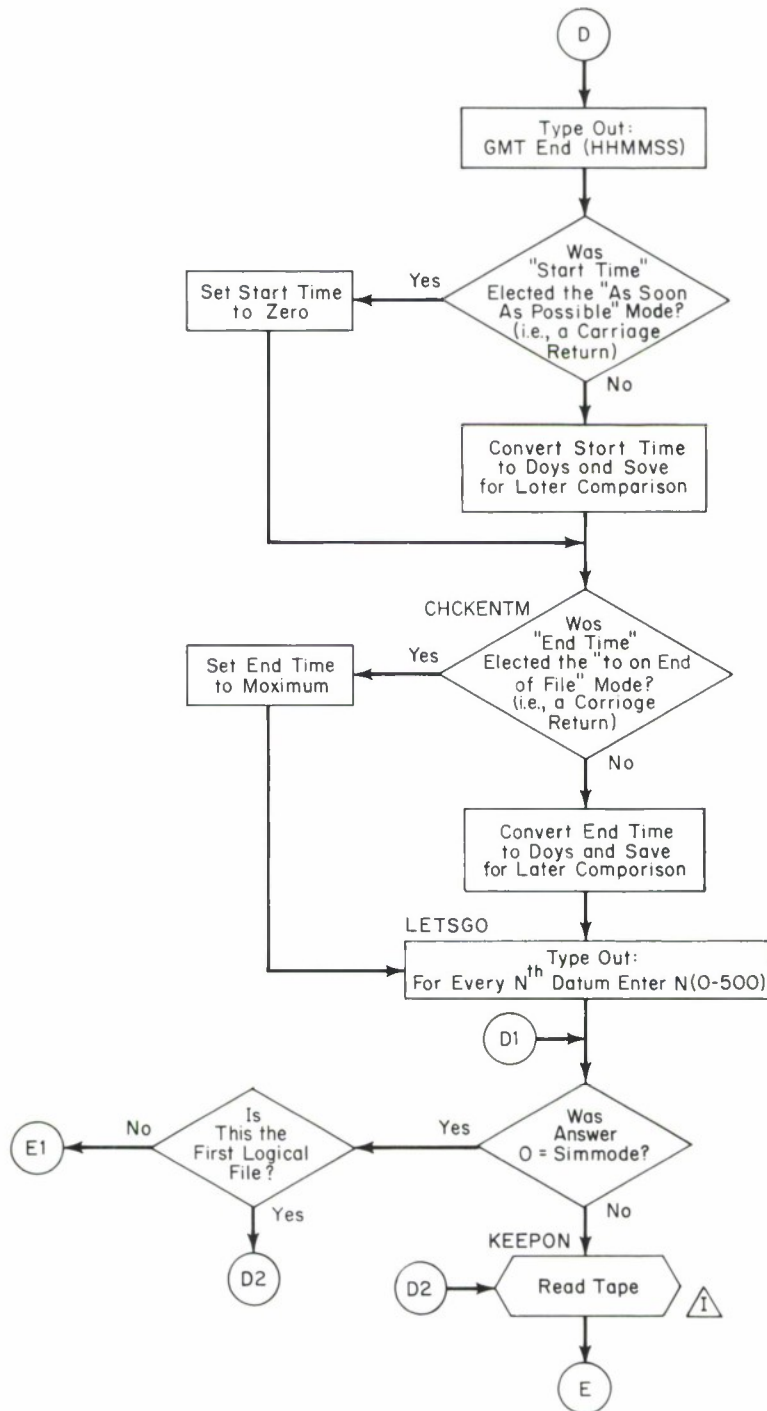
PRINT PROGRAM: FLOW CHART

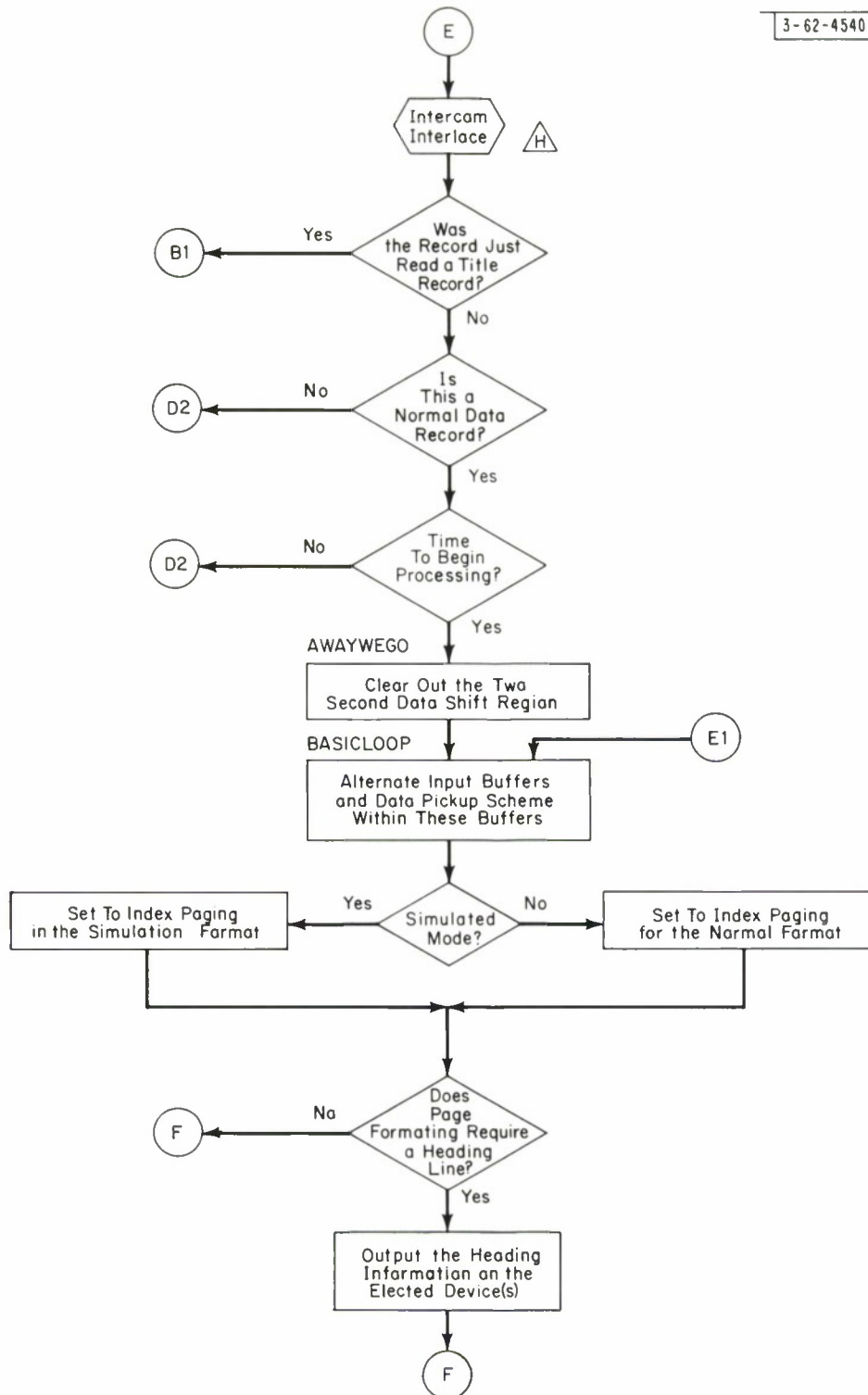
3-62-4536

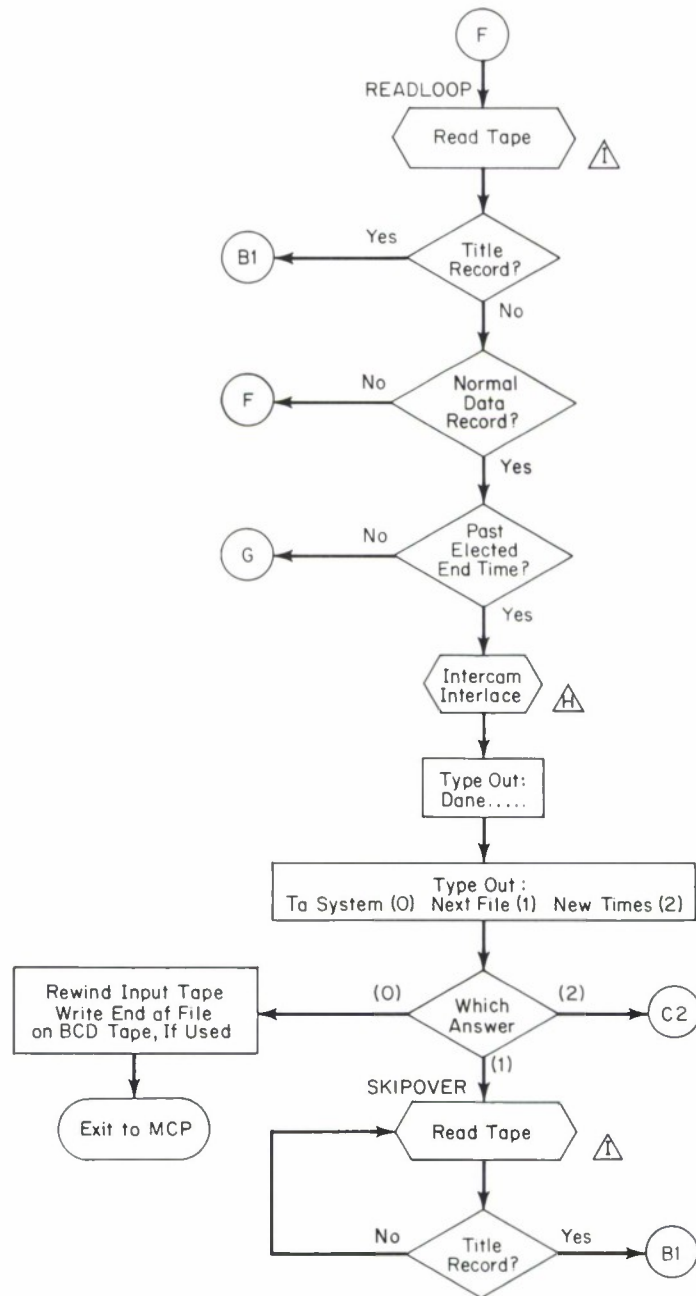


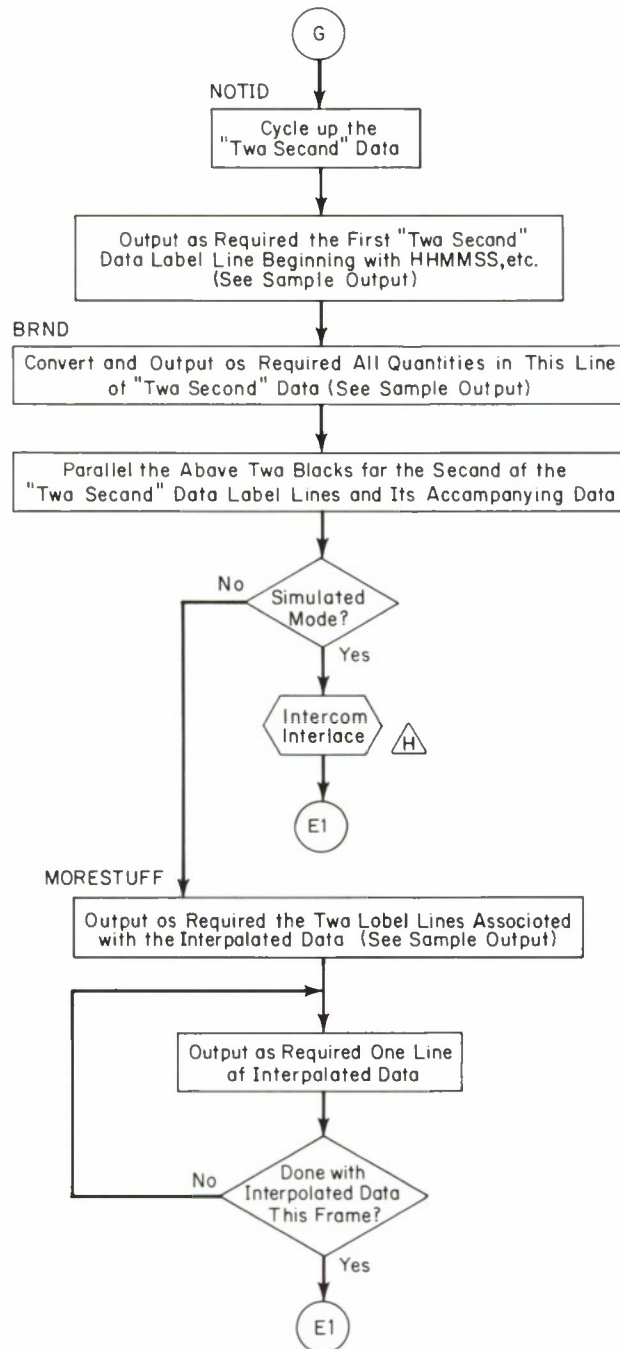






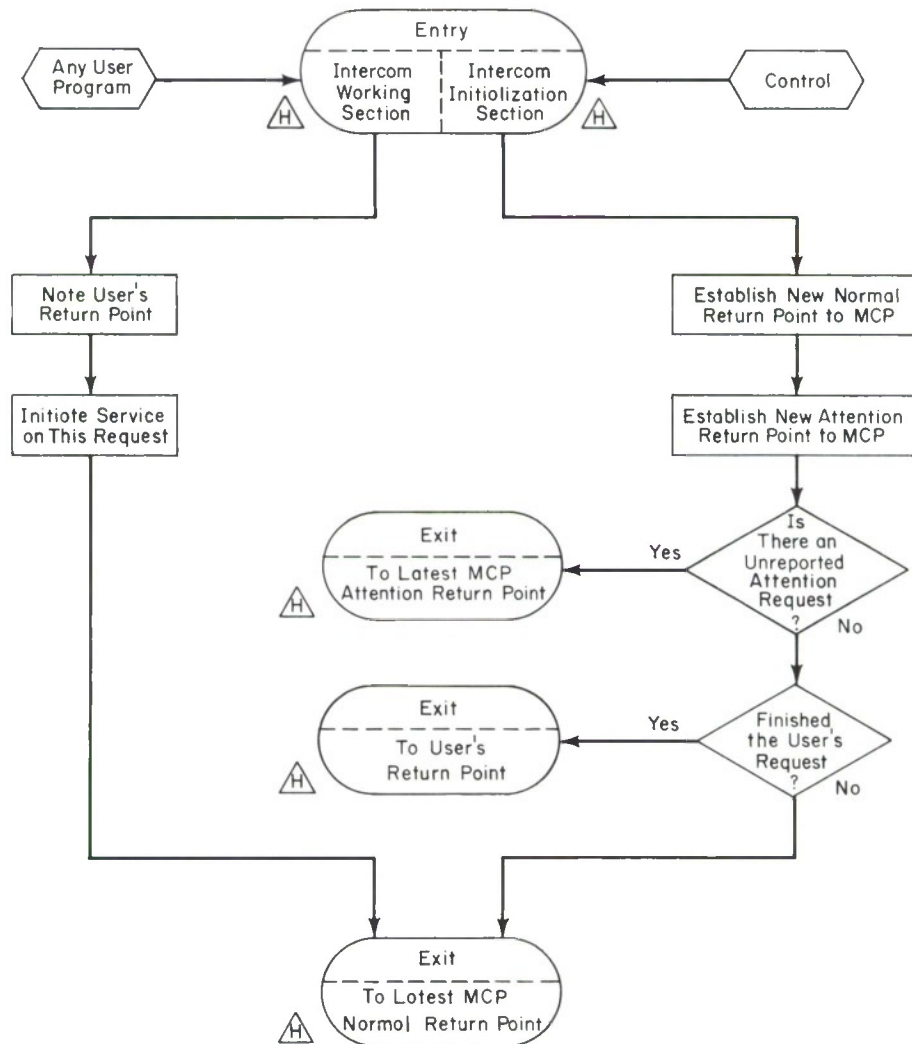






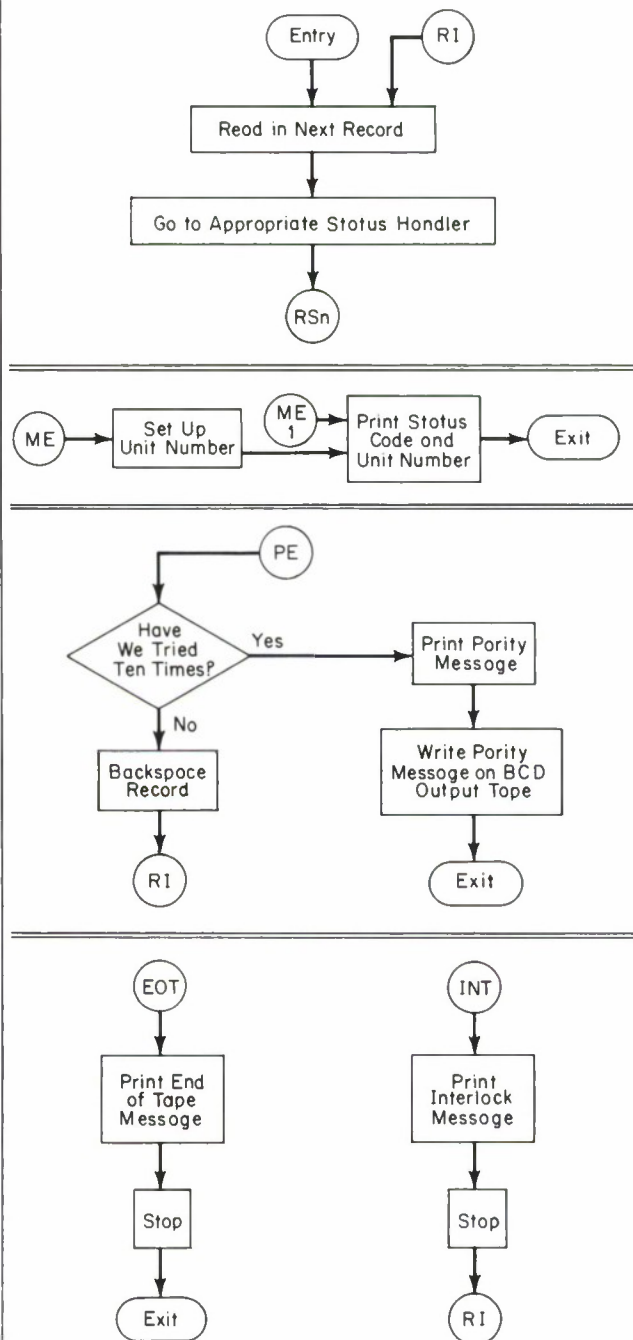
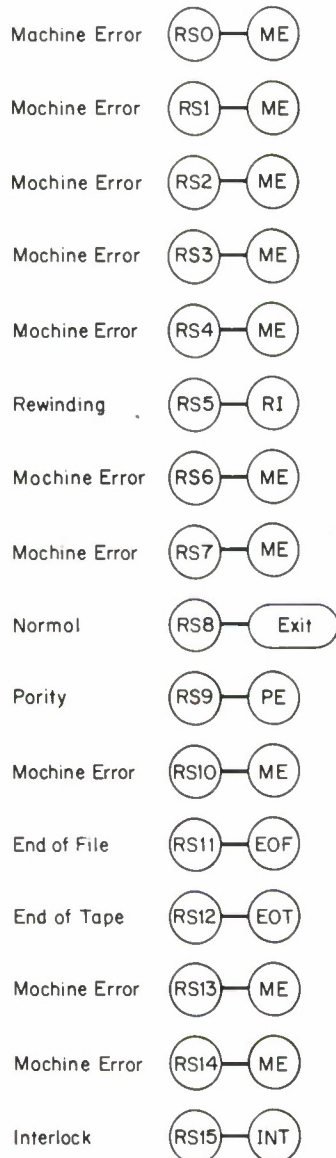
INTERCOM INTERLACE

3-65-4543



READ ROUTINE

3-62-4544



CAROS	LI	IO	LABEL	TA STATEMENT	LOC	F	JKB	Y	NOTES
•	00000		PRINTOUT	PROGRAM J00*1/22/65	00000				
•	00001		TAPE	MEANS C15	00001				
•	00002		TYPE	MEANS C2	00002				
•	00003		HSP	MEANS C3	00003				
•	00004		FRPERPAGE	EQUALS 7	00004				
•	00005		DATA	EQUALS 101CELCOR	00005				
•	00006		DATA2	EQUALS MCPFILLER	00006				
•	00007		DELTA0	EQUALS MCPFILLER-101CELCOR	00007				
•	00010		PRINTOUT	U-TAG PORUN*PORUN	00010				
•	00011			FO 1*PRINT	00011				
•	00012		PORUN	ENTRY	00012				
•	00013			PUT FRPERPAGE*(1/TITLECNT)	00013				
•	00014			CL W(SIMSWITCH)	00014				
•	00015			ENT A*(SYSTAT01)*AZERO	00015				IS -0 IF RECD HAS FINALIZED
•	00016			JP NOREW	00016				TAPE HAS EOF ETC
•	00017			CL W(REWYORN)	00017				
•	00020			RJP U(INTERCOM)	00020				
•	00021			U-TAG TOREWQ*TOREWA	00021				
•	00022			ENT A*(REWYORN)*ANOT	00022				
•	00023			JP NOREW	00023				
•	00024			PUT W(HERETO001)*W(351	00024				
•	00025			SUB A*1*ANOT	00025				
•	00026			JP FILEONE	00026				
•	00027			EX-FCT TAPE*1230000004	00027				WEOF W/INTERRUPT
•	00030			JP \$	00030				
•	00031		FILEONE	STR TAPE*W(STAT)	00031				
•	00032			PUT NOREW*(351	00032				
•	00033			EX-FCT TAPE*3010000004	00033				REW W/INTERRUPT
•	00034			JP \$	00034				
•	00035		NOREW	STR TAPE*W(STAT)	00035				
•	00036			RJP PIMAGE	00036				
•	00037			O MYOUT	00037				
•	00040			RJP E	00040				
•	00041			RJP PFORM	00041				
•	00042			S 2	00042				
•	00043			RJP E	00043				
•	00044			RJP PBLANK	00044				
•	00045			I 1280	00045				
•	00046			RJP E	00046				
•	00047		RESTART	PUT 12000*U(INSERT)	00047				SET TO NO-OP
•	00050		WLOOP	RJP L(INTERCOM)	00050				
•	00051			RJP WHAT00	00051				
•	00052		INSERT	NO-OP	00052				
•	00053			PUT W(INSERT)*W(INSERT	00053				
•	00054			CL W(ANSOUTPUT)	00054				
•	00055			CL W(HSPOUTPUT)	00055				0 = HSP OUTPUT
•	00056			STR B0*CPW(BCOOUTPUT	00056				-0 = NO BCOOUTPUT

PRINTOUT

CAROS	LI	IO	LABEL	TA	STATEMENT	LOC	F	JKB	Y	NOTES
.	00057			RJP	UI INTERCOM1	00054	65020	53426		
.	00060			U-TAG	BCDQUES#BCOANS	00055	03372	03406		
.	00061			ENT	A#W(ANSOUTPUT1#ANOT	00056	11530	03412		
.	00062			JP	STANOECS	00057	61000	00071		JUST HSP
.	00063			SUB	A#1#ANOT	00060	21500	00001		
.	00064			STR	BO#CPW(HSPUTPUT1	00061	16070	03370		WAS 1 = JUST BCO
.	00065			CL	WRCOOUTPUT1	00062	16030	03371		WAS 2 = B0TH
.	00066			ENT	A#L(ANSOUTPUT)	00063	11010	03412		
.	00067			SUB	A#1#AZERO	00064	21400	00001		
.	00070			JP	STANOECS	00065	61000	00071		
.	00071			PUT	90#L(TITLECNT1	00066	10000	00011		IS BCO ONLY INCREASE LINES/PAG
.										E
.	00072			STR	Q#L(RESETCNT1	00067	14010	02027		
.	00073	STANOECS		RJP	UI INTERCOM1	00070	14010	00274		
.	00074			U-TAG	TELL TOP#0	00071	55020	53426		
.	00075	STANOECSY		RJP	REAO TAPE	00072	01770	00000		
.	00076			U-TAG	DATA+40000#OATA	00073	55000	03074		
.	00077			ENT	A#W(ATA1	00074	72540	53000		
.	00100			SUB	A#W(TITLEKEY1#AZERO	00075	11030	53000		
.	00101			JP	STANOECSY	00076	21430	04415		IS TITLE RECORD
.	00102	NEWTITLE		RJP	ISIO	00077	61000	00073		
.	00103	ASKTIMES		STR	BO#CPW(ANSSTTM1	00100	65000	01403		
.	00104			STR	BO#CPW(ANSENOTM1	00101	16070	04502		
.	00105			JP	REVITAL#KEY1	00102	16070	04517		
.	00106			RJP	UI INTERCOM1	00103	61100	00166		
.	00107			U-TAG	STQUES#STANS	00104	65020	53426		
.	00110			RJP	UI INTERCOM1	00105	04467	04476		
.	00111			U-TAG	ETQUES#ETANS	00106	65020	53426		
.	00112			ENT	Q#W(ANSSTTM1#QPOS	00107	04503	04512		
.	00113			JP	STRTNOW	00110	10230	04502		
.	00114			CL	A#	00111	61000	01575		
.	00115			OIV	100000	00112	11000	00000		
.	00116			STR	Q#W(OMSHRS1	00113	23000	23420		
.	00117			STR	A#Q	00114	14030	04523		
.	00120			CL	A#	00115	15000	00000		
.	00121			OIV	1000	00116	11000	00000		
.	00122			STR	Q#W(OMSMINS1	00117	23000	00144		
.	00123			STR	A#W(OMSECS1	00120	14030	04524		
.	00124			ENT	Q#W(OMSHRS1	00121	15030	04525		
.	00125			MUL	36000	00122	10030	04523		
.	00126			STR	Q#W(OMSECSCTT1	00123	22000	07020		
.	00127			ENT	Q#W(OMSMINS1	00124	14030	04531		
.	00130			MUL	600	00125	10030	04524		
.	00131			RPL	Y#Q#W(OMSECSCTT1	00126	22000	03074		
.	00132			ENT	Q#W(OMSECS1	00127	34030	04531		
.	00133			RPL	Y#Q#W(OMSECSCTT1	00130	10030	04525		
.	00134			CL	Q#	00131	34030	04531		
.	00135			RSH	AQ#2	00132	10000	00000		
.	00136			OIV	864000	00133	03000	00002		
.	00137			STR	Q#W(OMPAREST1	00134	23030	07500		
.	00140	CHCKENTM		ENT	Q#W(ANSENOTM1#QPOS	00135	14030	04520		
.	00141			JP	STAYLATE	00136	10230	04517		
.						00137	61000	01627		START TIME IN SECONDS

..... PRINTOUT SPUPT OUTPUT NO. 210 J00*1/22/65										
CARDS	LI	IO	LABEL	TA	STATEMENT	LOC	F	JKB	Y	NOTES
.	00142				CL A*	00140	11000	00000		
.	00143				OIV 100000	00141	23000	23420		
.	00144				STR Q*W(OMEHRS)	00142	14030	04526		
.	00145				STR A*Q	00143	15000	00000		
.	00146				CL A*	00144	11000	00000		
.	00147				OIV 1000	00145	23000	00144		
.	00150				STR Q*W(OMEHMS)	00146	14030	04527		
.	00151				STR A*W(OMESECS)	00147	15030	04530		
.	00152				ENT Q*W(OMEHRS)	00150	10030	04526		
.	00153				MUL 36000	00151	22000	07020		
.	00154				STR Q*W(OMESECTTG)	00152	14030	04532		
.	00155				ENT Q*W(OMEHMS)	00153	10030	04527		
.	00156				MUL 600	00154	22000	00074		
.	00157				RPL Y+Q*W(OMESECTTG)	00155	34030	04532		
.	00160				ENT Q*W(OMESECS)	00156	10030	04530		
.	00161				RPL Y+Q*W(OMESECTTG)	00157	34030	04532		
.	00162				CL Q*	00160	10000	00000		
.	00163				RSH AQ*2	00161	03000	00002		
.	00164				OIV 864000	00162	23030	07500		
.	00165		LETSGO		STR Q*W(COMPAREET)	00163	14030	04521		
.	00166				RJP U(INTERCOM)	00164	65020	63426		
.	00167				U-TAG EVERYN*SAYIT	00165	02005	02021		
.	00170	REVITAL			ENT A*W(HSPUTOUT)*AZERO	00166	11430	03370		
.	00171				JP SEARCHTAPE	00167	61000	00173		
.	00172				RJP PFORM	00170	65000	05773		
.	00173				5 2	00171	00005	00002		
.	00174				RJP E	00172	65000	02202		
.	00175	SEARCHTAPE			ENT A*LI(HOWMANY)*AZERO	00173	11410	02067		SIM MODE = ZERO
.	00176				JP NWSRCHTP	00174	61000	00200		
.	00177				ENT A*W(SIMSWITCH)*AZERO	00175	11430	02026		
.	00200				JP BASICLOOP	00176	61000	00236		
.	00201				STR B0*CPW(SIMSWITCH)	00177	16070	02026		
.	00202	NWSRCHTP			ENT A*DATA2	00200	11000	71000		
.	00203				SUB A*DATA	00201	21000	63000		
.	00204				ENT B3*A	00202	12370	00000		
.	00205	KEEPON			RJP REAOTAPE	00203	65000	03074		
.	00206				U-TAG DATA2+40000*DATA2	00204	00541	71000		
.	00207				RJP LI(INTERCOM)	00205	55010	53426		
.	00210				RJP WHATDO	00206	65000	00357		
.	00211				ENT A*W(ATA2)	00207	11030	71000		
.	00212				SUB A*W(TITLEKEY)*ANOT	00210	21530	04415		
.	00213				JP NEWTITLE	00211	61000	00100		
.	00214				ENT A*W(ATA2)	00212	11030	71000		NEW LOGICAL FILE
.	00215				SUB A*W(CSKEY)*AZERO	00213	21430	04533		FW
.	00216				JP KEEPON	00214	61000	00203		IS COMMON STORAGE
.	00217				ENT A*W(ANSSTTM)*APOS	00215	11530	04502		
.	00220				JP AWAYWEGO	00216	61000	00222		
.	00221				ENT A*W(TRUE TIME+B3)	00217	11033	53132		
.	00222				SUB A*W(COMPAREST)*APOS	00220	21530	04520		
.	00223				JP KEEPON	00221	61000	00203		
.	00224	AWAYWEGO			RPT 800*ADV	00222	70100	00120		
.	00225				CL W(PLORA)	00223	16030	02502		
.	00226				PUT LI(HOWMANY)*L(AOVANB1)	00224	10010	02067		HOWMANY

SIM MODE = ZERO

NEW LOGICAL FILE
FW
IS COMMON STORAGE

CAROS	L1	IO	LABEL	TA	STATEMENT	LOC	F	JKB	Y	NOTES
.	00227				STR Q*L(CNTRPT)	00225	14010	01374		
.	00230				CL A*	00226	14010	01376		
.	00231				ENT Q*5000	00227	11000	00000		
.	00232				OLV L(HOWMANY)	00230	10000	00764		
.	00233				SUB Q*1	00231	23010	02067		
.	00234				STR Q*L(NOPTS1	00232	27000	00001		LOOP CONTROL
.	00235		LAUNCHEO		ENT A*1	00233	14010	02215		
.	00236				STR A*L(MSWITCH)	00234	11000	00001		
.	00237		BASICLOOP		ENT A*1	00235	15010	02221		
.	00240				RSE CP*L(MSWITCH)	00236	11000	00001		
.	00241				ENT B4*L(MSWITCH1	00237	55010	02221		
.	00242				ENT B3*L(IRSWITCH+B41	00240	12410	02221		
.	00243				PUT W(UTAGSWITCH*B4)*W(IVARYUTAG)	00241	12314	02222		
						00242	10034	02224		
						00243	14030	00321		
.	00244				STR Q*L(BACKWOS)	00244	14010	00322		
.	00245				STR Q*L(BACKWOSA)	00245	14010	00325		
.	00246				PUT L(AZINSW+B4)*L(FORAZIN)	00246	10014	02230		
						00247	14010	01232		
.	00247				PUT L(ELINSW+B4)*L(FORELIN)	00250	10014	02232		
						00251	14010	01253		
.	00250				PUT L(AZOUTSW+B4)*L(FORAZOUT)	00252	10014	02234		
						00253	14010	01266		
.	00251				PUT L(ELOUTSW+B4)*L(FORELOUT)	00254	10014	02236		
						00255	14010	01307		
.	00252				PUT L(OOPOUTSW+B4)*L(FOROOPOUT)	00256	10014	02240		
						00257	14010	01350		
.	00253				PUT 7*U(TOPORNOT)	00260	10000	00007		
						00261	14020	00306		
.	00254				ENT A*W(SIMSWITCH)*ANEQ	00262	11730	02026		
.	00255				JP NOTINSIM	00263	61000	00276		
.	00256				ENT A*W(BRANONEW)*ANOT	00264	11530	02025		
.	00257				JP \$+2	00265	61000	00267		NEW TITLE
.	00260				JP CARRION	00266	61000	00272		
.	00261				STR B0*CPW(BRANONEW1	00267	16070	02025		
.	00262		NOTOPPAGE		CL U(TOPORNOT)	00270	16020	00306		
.	00263				JP NOTINSIM	00271	61000	00276		
.	00264		CARRION		RPL Y-1*L(TITLECNT)*AZERO	00272	37410	02027		
.	00265				JP REAOLOOP	00273	61000	00320		
.	00266		RESETCNT		ENT Q*FRPERPAGE	00274	10000	00007		
.	00267				STR Q*L(TITLECNT)	00275	14010	02027		
.	00270		NOTINSIM		RJP PFO	00276	65000	05557		
.	00271				O MYHEAD	00277	00000	02242		
.	00272				1280 1	00300	00200	00001		
.	00273				RJP E	00301	65000	02202		
.	00274				JP \$+3*KEY3	00302	61300	00305		
.	00275				ENT A*W(HSPOUTPUT)*AZERO	00303	11430	03370		
.	00276				JP \$+4	00304	61000	00310		
.	00277				RJP PSCRIB	00305	65000	06057		NO HSP OUTPUT
.	00300		TOPORNOT		7 3	00306	00007	00003		OSCRIB
.	00301				RJP E	00307	65000	02202		
.	00302				ENT A*W(BCDOUTPUT1)*AZERO	00310	11430	03371		
.	00303				JP REAOLOOP	00311	61000	00320		

..... PRINTOUT SPUPT OUTPUT NO. 210 J00*1/22/65																		
CAROS	LI	IO	LABEL	TA	STATEMENT	LOC	F	JKB	Y	NOTES									
.	00304				ENT A*(00UBLESPI	00312	11010	03744											
.	00305				ENT Q*(TOPORNOTI	00313	10020	00306											
.	00306				A00 Q*0*QZERO	00314	26400	00000											
.	00307				ENT A*(TOPOFFAGEI	00315	11010	03743											
.	00310				STR A*(PBUFI	00316	15020	07274											
.	00311				RJP TAPEOPUT	00317	65000	03473											
.	00312		REAOL00P		RJP REAOTAPE	00320	65000	03074		C PATCH									
.	00313		VARYUTAG		U-TAG DATA+40000*DATA	00321	72640	53000											
.	00314		BACKW0S		ENT A*(OI	00322	11030	00000											
.	00315				SUB A*(TITLEKEYI*ANOT	00323	21530	04415											
.	00316				JP NEWTITLE	00324	61000	00100											
.	00317		BACKW0SA		ENT A*(OI	00325	11030	00000											
.	00320				SUB A*(CSKEYI*AZERO	00326	21430	04533											
.	00321				JP REAOL00P	00327	61000	00320		NOT OURS									
.	00322				ENT A*(COMPAREETI	00330	11030	04521											
.	00323				SUB A*(TRUETIME+B31*ANEG	00331	21733	53132											
.	00324				JP NOTIO	00332	61000	00452											
.	00325				ENT A*(ANSEN0THI*AP0S	00333	11630	04517											
.	00326				JP NOTIO	00334	61000	00452											
.	00327				PUT 12000*U(QNSERTI	00335	10000	12000											
.	00330		QWLO0P		RJP L(INTERCOMI	00336	14020	00341											
.	00331				RJP WHAT00	00337	65010	53426											
.	00332		QNSERT		NO-OP	00340	65000	00357											
.	00333				PUT W(QNSERTAI*W(QNSERTI	00341	12000	00000											
.	00334				RJP U(INTERCOMI	00342	10030	04516											
.	00335				U-TAG TELLOONE*0	00343	14030	00341											
.	00336				RJP WHAT00	00344	65020	53426											
.	00337		SKIPOVER		RJP REAOTAPE	00345	04534	00000											
.	00340				U-TAG DATA+40000*DATA	00346	65000	00357											
.	00341				RJP L(INTERCOMI	00347	65000	03074											
.	00342				RJP WHAT00	00350	72640	53000											
.	00343				ENT A*(DATA)	00351	65010	53426											
.	00344				SUB A*(TITLEKEYI*AZERO	00352	65000	00357											
.	00345				JP SKIPOVER	00353	11030	63000											
.	00346				JP NEWTITLE	00354	21430	04415											
.	00347		WHAT00		ENTRY	00355	61000	00347											
.	00350				TERM TAPE*INPUT	00356	61000	00100											
.	00351				TERM HSP*OUTPUT	00357	61000	00000											
.	00352				PUT 12000*U(GOTHRUI	00360	66400	00000											
.	00353		FNLO0P		RJP L(INTERCOMI	00361	67140	00000											
.	00354				RJP WHAT00	00362	10000	12000											
.	00355		GOTHRU		NO-OP	00363	14020	00366											
.	00356				PUT W(NOGOTHRUI*W(GOTHRUI	00364	65010	53426											
.	00357				ENT A*(HSPOUTPUTI*AZERO	00365	65000	00357											
.	00360				JP SKIPPF	00366	12000	00000											
.	00361				RJP PFORM	00367	10030	00451											
.	00362				S 2	00370	14030	00366											
.	00363				RJP E	00371	11430	03370											
.	00364		SKIPPF		CL W(NOWWHATI	00372	61000	00376											
.						00373	55000	05773		ASK ROY #HY									
.						00374	00005	00002											
.						00375	65000	02202											
.						00376	16030	00447											

FINISHED THIS JOB

..... PRINTOUT SPUPT OUTPUT NO. 210 J00*1/22/65										
CARDS	LI	IO	LABEL	TA	STATEMENT	LOC	F	JKB	Y	NOTES
.	00365			RJP	U(INTERCOM1	00377	65020	53426		RETURN TO CONTROL = 0
.	00366			U-TAG	NOWQUES*NOWANS	00400	00427	00443		SKIP FORWARD NON ZERO
.	00367			ENT	A*L(NOWWHAT1*AZERO	00401	11410	00447		
.	00370			JP	TWOORONE	00402	61000	00405		
.	00371			RJP	FINALIZER	00403	65000	00410		
.	00372			JP	L(PORUN)	00404	61010	00002		EXIT TO SYSTEM
.	00373		TWOORONE	SUB	A*1*AZERO	00405	21400	00001		
.	00374			JP	ASKTIMES	00406	61000	00101		
.	00375			JP	SKIPOVER	00407	61000	00347		
.	00376		FINALIZER	ENTRY		00410	61000	00000		
.	00377			PUT	W(JUMPBACK1*W(351	00411	10030	00426		
.	00400			EX-FCT	TAPE*3010000004	00413	13670	07477		REW INPUT TAPE WIT INT
.	00401			JP	\$	00414	61000	00414		
.	00402		FMJMPBACK	STR	TAPE*W(STAT1	00415	17670	03323		
.	00403			ENT	A*W(BCOOUTPUT1*4POS	00416	11630	03371		WAS THERE BCO OUTPUT
.	00404			EXIT		00417	61010	00410		NO
.	00405			PUT	FMEOF53*L(351	00420	10000	00424		WEOF ON O/P TAPE W/INT
.	00406			EX-FCT	TAPE*12300000010	00421	14010	00035		
.	00407			JP	\$	00422	13670	07501		
.	00410		FMEOF53	STR	TAPE*W(STAT1	00423	61000	00423		
.	00411			EXIT		00424	17670	03323		
.	00412		JUMPBACK	RILJP	FMJMPBACK	00425	61010	00410		
.	00413		NOWQUES	FO	1*A	00426	60100	00415		
.	00414			-0	\$+1	00427	06050	50505		
.	00415		CHOICEQUES	FO	3*TO SYSTEM (01	00430	77777	00431		
.	00416			2312353105		00431	31240	53036		NEXT
.	00417			5213162112		00432	30311	22205		
.	00420			5205516140		00433	51244	00505		
.	00421			FO	3* NEW TIMES (21	00434	23123	53105		
.	00422			-0		00435	52131	52112		
.	00423		NOWANS	FO	1*0	00436	52055	16140		
.	00424			11	NOWHAT	00437	05052	31234		
.	00425			0		00440	05311	52212		
.	00426			2		00441	30055	16240		
.	00427		NOWHAT	0		00442	77777	77777		
.	00430		WHERE TOGO	RILJP	FILEOONE	00443	11050	50505		
.	00431		NOGOTHRJ	JP	FNLOOP	00444	00011	00447		UPR LNT
.	00432		NOT10	MOVE	200*PL2RA*PLORA	00445	00000	00000		
.						00446	00000	00002		
.						00447	00000	00000		
.						00450	60100	00023		
.						00451	61000	00364		
.						00452	12700	00023		
.						00453	10037	02526		
.						00454	14037	02502		
.						00455	72700	00453		
.	00433			MOVE	200*PL4RA*PL2RA	00456	12700	00023		
.						00457	10037	02552		
.						00460	14037	02526		
.						00461	72700	00457		
.						00462	12700	00023		
.	00434			MOVE	200*PL6RA*PL4RA	00463	10037	02576		

CAROS	L1	IO	LABEL	TA	STATEMENT	LOC	F	JKB	Y	NOTES
.	00516				STR A*W1SECS)	00551	15030	02213		
.	00517				RPL Y+1*W1MINS)	00552	36030	02212		
.	00520		CHECKMIN		ENT A*W1MINS)	00553	11030	02212		
.	00521				SUB A*600*AZERO	00554	21400	00074		
.	00522				JP TIMEOK	00555	61000	00560		
.	00523				STR A*W1MINS)	00556	15030	02212		
.	00524				RPL Y+1*W1HOURS)	00557	36030	02211		
.	00525		TIMEOK		RJP PINT	00560	65000	05362		
.	00526				0 HOURS	00561	00000	02211		
.	00527				2 1	00562	00002	00001		
.	00530				RJP E	00563	65000	02202		
.	00531				RJP PINT	00564	65000	05362		OINT
.	00532				0 MINS	00565	00000	02212		
.	00533				2 4	00566	00002	00004		
.	00534				RJP E	00567	65000	02202		
.	00535				RJP PINT	00570	65000	05362		OINT
.	00536				0 SECS	00571	00000	02213		
.	00537				2 7	00572	00002	00007		
.	00540				RJP E	00573	65000	02202		
.	00541				RJP PFO	00574	65000	05557		
.	00542		FILLCHAR		0	00575	00000	00000		
.	00543				1	00576	00001	00001		
.	00544				RJP E	00577	65000	02202		RA
.	00545				ENT Q*W(RA+B3)	00600	10033	53002		
.	00546				STR Q*W(PL6RA)	00601	14030	02576		
.	00547				ENT Q*W(PL6RA)	00602	10030	02502		JSE DATA THREE FRAMES OLO
.	00550				RJP RB27	00603	65000	01642		
.	00551				RJP PFI	00604	65000	05476		OPIX
.	00552				0 FX	00605	00000	02217		
.	00553				190 100	00606	00023	00012		
.	00554				3 4	00607	00003	00004		
.	00555				RJP E	00610	65000	02202		
.	00556		NOWOEC		ENT Q*W(OEC+B3)	00611	10033	53003		OEC
.	00557				STR Q*W(PL6OEC)	00612	14030	02577		
.	00560				ENT Q*W(PL6OEC)	00613	10030	02503		
.	00561				RJP RB27	00614	65000	01642		
.	00562				RJP PFI	00615	65000	05476		OPIX
.	00563				0 FX	00616	00000	02217		
.	00564				190 190	00617	00023	00023		
.	00565				3 4	00620	00003	00004		
.	00566				RJP E	00621	65000	02202		
.	00567				ENT A*W(SYSTAT2)*AVEG	00622	11730	53314		
.	00570				JP ISERA011	00623	61000	00637		
.	00571		ISAU		PUT W(RA01US+B3)*W(PL6RA01US)	00624	10033	53006		
.	00572				ENT A*W(PL6RA01US)*APOS	00625	14030	02600		
.	00573				CP A*	00626	11630	02504		
.	00574				STR A*W(PL6RA01US)	00627	15040	00000		
.	00575				RJP PFI	00630	15030	02504		
.	00576				0 PL6RA01US	00631	65000	05476		
.	00577				240 280	00632	00000	02504		
.	00600				2 80	00633	00030	00034		
.	00601				RJP E	00634	00002	00010		
.						00635	65000	02202		

..... PRINTOUT SPURT OUTPUT NO. 210
J00*1/22/65

CAROS	L1	IO	LABEL	TA	STATEMENT	LOC	F	JKB	Y	NOTES
.	00602		ISERA011	JP	ARNO	00636	61000	00646		
.	00603			PUT	W(RAOIUS+B31)*W(PLGRA01US1	00637	10033	53006		
.	00604			RJP	PFIX	00640	14030	02600		
.	00605			0	PLORA01US	00641	65000	05476		
.	00606			220	280	00642	00000	02504		
.	00607			3	80	00643	00025	00034		
.	00610			RJP	E	00644	00003	00010		
.	00611		ARNO	PUT	W(RAOIUS00T+B31)*W(PL6RA0S0T1	00645	55000	02202		
.	00612			RJP	PFIX	00646	10033	53011		
.	00613			0	PLORA0S0T	00647	14030	02601		
.	00614			240	410	00650	65000	05476		
.	00615			2	5	00651	00000	02505		
.	00616			RJP	E	00652	00030	00051		
.	00617			ENT	Q*W(RA00T+B31	00653	00002	00005		
.	00620			STR	Q*W(PL6RA00T1	00654	65000	02202		RAOINS PER SEC B37
.	00621			ENT	Q*W(PLORA00T1	00655	10033	53007		
.	00622			MUL	W(TENG8161	00656	14030	02602		
.	00623			STR	A*W(TEMP1	00657	10030	02506		
.	00624			RJP	PFIX	00660	22030	01765		10000816
.	00625			0	TEMP	00661	15030	02204		
.	00626			220	500	00662	65000	05476		
.	00627			2	7	00663	00000	02204		
.	00630			RJP	E	00664	00026	00062		
.	00631		FORAZIM	ENT	Q*W(AZIM+B31	00665	00002	00007		
.	00632			STR	Q*W(PL6AZIM1	00666	65000	02202		
.	00633			ENT	Q*W(PL0AZIM1	00667	10033	53053		
.	00634			RJP	RB27	00670	14030	02603		
.	00635			RJP	PFIX	00671	10030	02507		
.	00636			0	FX	00672	65000	01642		OFIX
.	00637			190	610	00673	65000	05476		
.	00640			3	4	00674	00000	02217		
.	00641			RJP	E	00675	00023	00075		
.	00642		FORELEV	ENT	Q*W(ELEV+B31	00676	00003	00004		
.	00643			STR	Q*W(PL6ELEV1	00677	65000	02202		
.	00644			ENT	Q*W(PL0ELEV1	00700	10033	53054		
.	00645			RJP	RB27	00701	14030	02604		
.	00646			RJP	PFIX	00702	10030	02510		
.	00647			0	FX	00703	65000	01642		OFIX
.	00650			190	700	00704	65000	05476		
.	00651			3	4	00705	00000	02217		
.	00652			RJP	E	00706	00023	00106		
.	00653			ENT	Q*W(AZIM+B31	00707	00003	00004		
.	00654			STR	Q*W(PL6CAZIM1	00710	65000	02202		
.	00655			ENT	Q*W(PL0CAZIM1	00711	10033	53060		
.	00656			RJP	RB27	00712	14030	02605		
.	00657			RJP	PFIX	00713	10030	02511		
.	00660			0	FX	00714	65000	01642		OFIX
.	00661			190	790	00715	65000	05476		
.	00662			3	4	00716	00000	02217		
.	00663			RJP	E	00717	00023	00117		
.	00664			ENT	A*W(1RUEANGE+B31	00720	00003	00004		
.						00721	65000	02202		
.						00722	11033	53063		

..... PRINTOUT SPURT OUTPUT NO. 210
J00*1/22/65

CAROS	LI	IO	LABEL	TA	STATEMENT	LOC	F	JKB	Y	NOTES
.	00665			STR	A*W(PL6TRUNG)	00723	15030	02606		
.	00666			ENT	A*W(PLOTRUNG)	00724	11030	02512		
.	00667			STR	A*W(ROPR)*APOS	00725	15630	04546		FOR ROCONV SR
.	00670			CP	A*	00726	15040	00000		
.	00671			STR	A*W(PLOTRUNG)	00727	15030	02512		
.	00672			ENT	A*W(SYSTAT2)*ANEG	00730	11730	63314		
.	00673			JP	POSRNG	00731	61000	00740		
.	00674			RJP	PFIX	00732	65000	05476		OFIX
.	00675			O	PLOTRUNG	00733	00000	02512		
.	00676			240	880	00734	00030	00130		
.	00677			2	80	00735	00002	00010		
.	00700			RJP	E	00736	65000	02202		
.	00701			JP	NOWRAHH	00737	61000	00745		
.	00702		POSRNG	RJP	PFIX	00740	65000	05476		
.	00703			O	PLOTRUNG	00741	00000	02512		OFIX
.	00704			220	0	00742	00026	00000		
.	00705			3	7	00743	00003	00007		
.	00706			RJP	E	00744	65000	02202		
.	00707		NOWRAHH	ENT	Q*W(PLORA)	00745	10030	02502		
.	00710			RJP	RAINHH	00746	65000	04301		
.	00711			ENT	A*1000	00747	11000	00144		IHH MM SS.XX FORMAT
.	00712			RJP	PORA	00750	65000	01647		
.	00713			ENT	Q*W(PLODEC)	00751	10030	02503		
.	00714			RJP	OECINOMS	00752	65000	04240		
.	00715			ENT	A*1120	00753	11000	00160		
.	00716			RJP	PODEC	00754	65000	01716		
.	00717			JP	\$+3*KEY3	00755	61300	00760		
.	00720			ENT	A*W(HSPOUTPUT)*AZERO	00756	11430	03370		
.	00721			JP	\$+4	00757	61000	00763		NO HSP OUTPUT
.	00722		BRNO	RJP	PSCRIB	00760	65000	06057		OSCRIB
.	00723			O	1	00761	00000	00001		
.	00724			RJP	E	00762	65000	02202		
.	00725			ENT	A*W(BCOOUTPUT)*AZERO	00763	11430	03371		
.	00726			JP	\$+4	00764	61000	00770		NO BCD OUTPUT
.	00727			ENT	A*L(SINGLESP)	00765	11010	03745		
.	00730			STR	A*U(PBUF)	00766	15020	07274		
.	00731			RJP	TAPEOUTPUT	00767	65000	03473		
.	00732			RJP	PBLANK	00770	65000	05621		OBLANK
.	00733			1	1280	00771	00001	00200		
.	00734			RJP	E	00772	65000	02202		
.	00735			RJP	PFO	00773	65000	05557		OBCC
.	00736			O	T2	00774	00000	02326		
.	00737			1280	1	00775	00200	00001		
.	00740			RJP	E	00776	65000	02202		
.	00741			JP	\$+3*KEY3	00777	61300	01002		
.	00742			ENT	A*W(HSPOUTPUT)*AZERO	01000	11430	03370		
.	00743			JP	\$+4	01001	61000	01005		NO HSP OUTPUT
.	00744			RJP	PSCRIB	01002	65000	06057		OSCRIB
.	00745			O	2	01003	00000	00002		
.	00746			RJP	E	01004	65000	02202		
.	00747			ENT	A*W(BCOOUTPUT)*AZERO	01005	11430	03371		
.	00750			JP	\$+4	01006	61000	01012		NO BCD OUTPUT
.	00751			ENT	A*L(OOUBLESP)	01007	11010	03744		

CAROS	L1 IO LABEL	TA STATEMENT	LOC	F JKB Y	NOTES
.	00752	STR A*UIPBUFF1	01010	15020 07274	
.	00753	RJP TAPEOUT	01011	65000 03473	
.	00754	RJP PRLANK	01012	65000 05621	OBLANK
.	00755	1 1280	01013	00001 00200	
.	00756	RJP E	01014	65000 02202	
.	00757	ENT Q*WISRA+831	01015	10033 53004	
.	00760	STR Q*WIPLOSRA1	01016	14030 02607	
.	00761	ENT Q*WIPLOSRA1	01017	10030 02513	
.	00762	RJP RB27	01020	65000 01642	
.	00763	RJP PFI	01021	65000 05476	OFI
.	00764	0 FX	01022	00000 02217	
.	00765	190 100	01023	00023 00012	
.	00766	3 4	01024	00003 00004	
.	00767	RJP E	01025	65000 02202	
.	00770	ENT Q*WISOE+831	01026	10033 53005	
.	00771	STR Q*WIPLOSIEC1	01027	14030 02610	
.	00772	ENT Q*WIPLOSIEC1	01030	10030 02514	
.	00773	RJP RB27	01031	65000 01642	
.	00774	RJP PFI	01032	65000 05476	OFI
.	00775	0 FX	01033	00000 02217	
.	00776	190 190	01034	00023 00023	
.	00777	3 4	01035	00003 00004	
.	01000	RJP E	01036	65000 02202	
.	01001	PUT W(CRANGE+831)*W(PL6CRANGE1	01037	10033 53057	
.			01040	14030 02611	
.	01002	RJP PINT	01041	65000 05362	
.	01003	0 PLOCRANGE	01042	00000 02515	
.	01004	80 280	01043	00010 00034	
.	01005	RJP E	01044	65000 02202	
.	01006	PUT W(RANGE00T+831)*W(PL6RNG00T)	01045	10033 53062	
.			01046	14030 02612	
.	01007	RJP PFI	01047	65000 05476	
.	01010	0 PLORNG00T	01050	00000 02516	
.	01011	240 370	01051	00030 00045	
.	01012	2 5	01052	00002 00005	
.	01013	RJP E	01053	65000 02202	
.	01014	ENT Q*WIOEC00T+831	01054	10033 53010	
.	01015	STR Q*WIPLOEC00T1	01055	14030 02513	
.	01016	ENT Q*WIPLOEC00T1	01056	10030 02517	
.	01017	MUL W(TENG8161	01057	22030 01765	
.	01020	STR A*WTEMP1	01060	15030 02204	
.	01021	RJP PFI	01061	65000 05476	
.	01022	0 TEMP	01062	00000 02204	
.	01023	220 460	01063	00025 00056	
.	01024	2 7	01064	00002 00007	
.	01025	RJP E	01065	65000 02202	
.	01026	ENT Q*WISAZIM+831	01066	10033 53055	
.	01027	STR Q*WIPLOSIZIM1	01067	14030 02614	
.	01030	ENT Q*WIPLOSIZIM1	01070	10030 02520	
.	01031	RJP RB27	01071	65000 01642	
.	01032	RJP PFI	01072	65000 05476	OFI
.	01033	0 FX	01073	00000 02217	
.	01034	190 0	01074	00023 00000	

CAROS	LI	IO	LABEL	TA	STATEMENT	LOC	F	JKB	Y	NOTES
.	C1035			3		01075	00003	00004		
.	C1036			RJP	E	01076	65000	02202		
.	C1037			ENT	Q*W(SELEV+B3)	01077	10033	63056		
.	C1040			STR	Q*W(PL6SELEV)	01100	14030	02615		
.	C1041			ENT	Q*W(PL0SELEV)	01101	10030	02521		
.	C1042			RJP	R827	01102	65000	01642		
.	C1043			RJP	PF1X	01103	65000	05476		OFIX
.	C1044			0	FX	01104	00000	02217		
.	C1045			190	0	01105	00023	00000		
.	C1046			3		01106	00003	00004		
.	C1047			RJP	E	01107	65000	02202		
.	C1050			ENT	Q*W(CELEV+B3)	01110	10033	63061		
.	C1051			STR	Q*W(PL6CELEV)	01111	14030	02616		
.	C1052			ENT	Q*W(PL0CELEV)	01112	10030	02522		
.	C1053			RJP	R827	01113	65000	01642		
.	C1054			RJP	PF1X	01114	65000	05476		OFIX
.	C1055			0	FX	01115	00000	02217		
.	C1056			190	0	01116	00023	00000		
.	C1057			3		01117	00003	00004		
.	C1060			RJP	E	01120	65000	02202		
.	C1061			ENT	Q*W(SIOERTIME+B3)	01121	10033	63012		
.	C1062			STR	Q*W(PL6SORTIME)	01122	14030	02617		
.	C1063			ENT	Q*W(PL0SORTIME)	01123	10030	02523		
.	C1064			STR	Q*W(ROPS)	01124	14030	04547		
.	C1065			PUL	W(RA00EC)	01125	22030	02065		
.	C1066			STR	A*W(TEMP)	01126	15030	02204		
.	C1067			RJP	PF1X	01127	65000	05476		OFIX
.	C1070			0	TEMP	01130	00000	02204		
.	C1071			190	0	01131	00023	00000		
.	C1072			3		01132	00003	00004		
.	C1073			RJP	E	01133	65000	02202		
.	C1074			JP	\$+3*KEY3	01134	61300	01137		
.	C1075			ENT	A*W(HSP0UTPUT1*AZERO	01135	11430	03370		
.	C1076			JP	\$+4	01136	61000	01142		
.	C1077			RJP	PSCR1B	01137	65000	06057		NO HSP OUTPUT
.	C1100			0	1	01140	00000	00001		OSCRIB
.	C1101			RJP	E	01141	65000	02202		
.	C1102			ENT	A*W(BC00UTPUT1*AZERO	01142	11430	03371		
.	C1103			JP	\$+4	01143	61000	01147		NO BCO OUTPUT
.	C1104			ENT	A*L(SINGLESP)	01144	11010	03745		
.	C1105			STR	A*U(PBUF)	01145	15020	07274		
.	C1106			RJP	TAPE0UT	01146	65000	03473		
.	C1107			ENT	A*W(SIMSWITCH1*ANOT	01147	11530	02026		
.	C1110			JP	MORESTUFF	01150	61000	01154		
.	C1111			RJP	L(INTERCOM)	01151	65010	53426		
.	C1112			RJP	WHAT00	01152	65000	00357		
.	C1113			JP	BASICLOOP	01153	61000	00236		
.	C1114		MORESTUFF	RJP	PBLANK	01154	65000	05621		
.	C1115			1	1280	01155	00001	00200		
.	C1116			RJP	E	01156	65000	02202		
.	C1117			RJP	PFO	01157	65000	05557		
.	C1120			0	LARELA	01160	00000	04341		
.	C1121			1100	1	01161	00156	00001		

..... PRINTOUT SPURT OUTPUT NO. 210
J00*1/22/65

CAROS	L1 ID LABEL	TA STATEMENT	LOC	F	JKB Y	NOTES
.	01122	RJP E	01162	55000	02202	
.	01123	JP \$+3*KEY3	01163	61300	01166	
.	01124	ENT A*W(HSPOUTPUT)*AZERO	01164	11430	03370	
.	01125	JP \$+4	01165	61000	01171	NO HSP OUTPUT
.	01126	RJP PSCTIB	01166	65000	06057	
.	01127	O 5	01167	00000	00005	
.	01130	RJP E	01170	65000	02202	
.	01131	ENT A*W(RCOOUTPUT)*AZERO	01171	11430	03371	
.	01132	JP \$+4	01172	61000	01176	NO RCO OUTPUT
.	01133	ENT A*L(OOUBLESP)	01173	11010	03744	
.	01134	STR A*U(PBUF1)	01174	15020	07274	
.	01135	RJP TAPEOUPUT	01175	65000	03473	
.	01136	RJP PFO	01176	65000	05557	
.	01137	O LABELR	01177	00000	04367	
.	01140	1100 1	01200	00156	00001	
.	01141	RJP E	01201	65000	02202	
.	01142	JP \$+3*KEY3	01202	61300	01205	
.	01143	ENT A*W(HSPOUTPUT)*AZERO	01203	11430	03370	
.	01144	JP \$+4	01204	61000	01210	NO HSP OUTPUT
.	01145	RJP PSCTIB	01205	65000	05057	
.	01146	O 1	01206	00000	00001	
.	01147	RJP E	01207	65000	02202	
.	01150	ENT A*W(RCOOUTPUT)*AZERO	01210	11430	03371	
.	01151	JP \$+4	01211	61000	01215	NO RCO OUTPUT
.	01152	ENT A*L(SINGLESP1	01212	11010	03745	
.	01153	STR A*U(PBUF1)	01213	15020	07274	
.	01154	RJP TAPEOUPUT	01214	65000	03473	
.	01155	RJP PBLANK	01215	65000	05621	
.	01156	1 1280	01216	00001	00200	
.	01157	RJP E	01217	65000	02202	
.	01160	CL W(TIME1	01220	16030	02220	
.	01161	CL B1*	01221	12100	00000	
.	01162	CL B2*	01222	12200	00000	
.	01163	RJP PFI	01223	65000	05476	OFIX
.	01164	O TIME	01224	00000	02220	
.	01165	280 1	01225	00034	00001	
.	01166	1 3	01226	00001	00003	
.	01167	RJP E	01227	65000	02202	
.	01170	PUT W(TIME)*W(ROPG)	01230	10030	02220	FOR ROCONV
.			01231	14030	04550	
.	01171	FORAZIN	01232	11031	75000	
.	01172	RJP CHKOVLP	01233	65000	01632	
.	01173	STR A*W(ROPA1	01234	15030	04544	
.	01174	STR A*Q	01235	15000	00000	
.	01175	MUL 3600	01236	22000	00550	
.	01176	STR Q*W(TEMP1	01237	14030	02204	
.	01177	RJP PFI	01240	65000	05476	
.	01200	O TEMP	01241	00000	02204	
.	01201	190 7	01242	00023	00007	
.	01202	3 4	01243	00003	00004	
.	01203	RJP E	01244	65000	02202	
.	01204	ENT A*W(KOVRAP1)*ANE	01245	11730	01641	
.	01205	JP FORELIN	01246	61000	01253	

CAROS	LI	IO	LABEL	TA	STATEMENT	LOC	F	JKB	Y	NOTES
.	01206			RJP	PFO	01247	65000	05557		
.	01207			0	ASTARX	01250	00000	04541		
.	01210			1	7	01251	00001	00007		
.	01211			RJP	E	01252	65000	02202		
.	01212		FORELIN	ENT	A*WIELEVIN*811	01253	11031	76000		
.	01213			SEL	CL*7776000000	01254	52030	07503		
.	01214			STR	A*WUROPE1	01255	15030	04545		
.	01215			STR	A*Q	01256	15000	00000		
.	01216			MUL	3600	01257	22000	00550		
.	01217			STR	Q*WTEMP1	01260	14030	02204		
.	01220			RJP	PFIX	01261	65000	05476		OFIX
.	01221			0	TEMP	01262	00000	02204		
.	01222			190	160	01263	00023	00020		
.	01223			3	4	01264	00003	00004		
.	01224			RJP	E	01265	65000	02202		
.	01225		FORAZOUT	ENT	A*WIAZIMOUT*811	01266	11031	54000		
.	01226			RJP	CHKOV LAP	01267	65000	01632		
.	01227			STR	A*WIFORROPA1	01270	15030	01766		
.	01230			STR	A*Q	01271	15000	00000		
.	01231			MUL	3600	01272	22000	00550		
.	01232			STR	Q*WTEMP1	01273	14030	02204		
.	01233			RJP	PFIX	01274	65000	05476		
.	01234			0	TEMP	01275	00000	02204		
.	01235			190	250	01276	00023	00031		
.	01236			3	4	01277	00003	00004		
.	01237			RJP	E	01300	65000	02202		
.	01240			ENT	A*W(KOVRLAP1*ANEG	01301	11730	01641		
.	01241			JP	FORELOUT	01302	61000	01307		
.	01242			RJP	PFO	01303	65000	05557		
.	01243			0	ASTARX	01304	00000	04541		
.	01244			1	250	01305	00001	00031		
.	01245			RJP	E	01306	65000	02202		
.	01246		FORELOUT	ENT	A*W(ELEVOUT*811	01307	11031	55000		
.	01247			SEL	CL*7776000000	01310	52030	07503		
.	01250			STR	A*WIFORROPE1	01311	15030	01767		
.	01251			STR	A*Q	01312	15000	00000		
.	01252			MUL	3600	01313	22000	00550		
.	01253			STR	Q*WTEMP1	01314	14030	02204		
.	01254			RJP	PFIX	01315	65000	05476		OFIX
.	01255			0	TEMP	01316	00000	02204		
.	01256			190	340	01317	00023	00042		
.	01257			3	4	01320	00003	00004		
.	01260			RJP	E	01321	65000	02202		
.	01261			RJP	ROCONV	01322	65000	04542		CONVERT INCOMING A+E TO RADEC
.	01262			ENT	Q*W(RAOUT1	01323	10030	05066		ANSWER RA IN REV R27
.	01263			RJP	RAINHH	01324	65000	04301		CONVERT TO HH MM SS.XX FORMAT
.	01264			ENT	A*430	01325	11000	00053		OUTPUT HH START AT COL 43 RA
.	01265			RJP	PORA	01326	65000	01647		
.	01266			ENT	Q*W(OECOUT1	01327	10030	05065		
.	01267			RJP	OECINOMS	01330	65000	04240		
.	01270			ENT	A*550	01331	11000	00067		
.	01271			RJP	PODEC	01332	65000	01716		
.	01272			MOVE	2*FORROPA*ROPA	01333	10030	01766		

CAROS	LI	IO	LABEL	TA	STATEMENT	LOC	F	JKB	Y	NOTES
.	C1273			RJP	ROCONV	01334	14030	04544		
.	01274			ENT	Q*W(RAOUT)	01335	10030	01767		
.	01275			RJP	RAINHH	01336	14030	04545		
.	01276			ENT	A*680	01337	65000	04542		
.	C1277			RJP	PORA	01340	10030	05066		
.	01300			ENT	Q*W(OECOUT)	01341	65000	04301		
.	01301			RJP	DECINOMS	01342	11000	00104		
.	01302			ENT	A*800	01343	65000	01647		
.	C1303			RJP	P00EC	01344	10030	05065		
.	01304		FOROOPOUT	ENT	Q*W(OOPOUT+B1)	01350	10031	56000		
.	01305			SUB	Q*7500000	01351	27030	07504		
.	01306			STR	Q*W(FOROOP)	01352	14030	02214		
.	C1307			RJP	PINT	01353	65000	05362		01NT
.	01310			O	FOROOP	01354	00000	02214		
.	01311			90	930	01355	00011	00135		
.	01312			RJP	E	01356	65000	02202		
.	C1313			JP	\$+3*KEY3	01357	61300	01362		
.	01314			ENT	A*W(HSPOUTPUT)*AZERO	01360	11430	03370		
.	01315			JP	\$+4	01361	61000	01365		NO HSP OUTPUT
.	C1316			RJP	PSCRIB	01362	65000	06057		
.	01317			O	1	01363	00000	00001		
.	01320			RJP	E	01364	65000	02202		
.	01321			ENT	A*W(BCOOUTPUT)*AZERO	01365	11430	03371		
.	01322			JP	\$+4	01366	61000	01372		NO BCO OUTPUT
.	C1323			ENT	A*L(SINGLESP)	01367	11010	03745		
.	01324			STR	A*U(PBUF)	01370	15020	07274		
.	01325			RJP	TAPEOUT	01371	65000	03473		
.	01326			RJP	L(INTERCOM)	01372	65010	53426		
.	C1327			RJP	WHAT00	01373	65000	00357		
.	01330		AOVANB1	ENT	B1*B1+0	01374	12101	00000		
.	01331			ENT	Q*W(OELTIME)	01375	10030	02216		
.	01332		CNTRPT	MUL	0	01376	22000	00000		
.	C1333			RPL	Y+0*W(TIME)	01377	34030	02220		
.	01334			BSK	82*L(NOPTS)	01400	71210	02215		
.	01335			JP	LOOPX	01401	61000	01223		
.	01336			JP	BASICLOOP	01402	61000	00236		
.	C1337		ISIO	ENTRY		01403	61000	00000		AN IO RECORD
.	01340			CL	W(BRANONEW)	01404	16030	02025		
.	01341			PUT	12000*U(OAMIC)	01405	10000	12000		
.						01406	14020	01411		
.	C1342		WXL00PX	RJP	L(INTERCOM)	01407	65010	53426		
.	01343			RJP	WHAT00	01410	65000	00357		
.	01344		OAMIC	NO-OP		01411	12000	00000		
.	01345			PUT	W(INSERTX)*W(OAMIC)	01412	10030	02622		
.						01413	14030	01411		
.	01346			ENT	Q*L(INBUFFER)	01414	10010	03101		
.	C1347			STR	Q*L(\$+1)	01415	14010	01416		
.	01350			ENT	Q*L(0)	01416	10010	00000		
.	C1351			STR	Q*L(MOVER+1)	01417	14010	01430		
.	01352			A00	Q*200	01420	26000	00024		

..... PRINTOUT SPURT OUTPUT NO. 210 J00*1/22/65							
CAROS	LI	IO	LABEL	TA	STATEMENT	LOC	F JKB Y NOTES
.	01353			STR	Q*L(PICKPGM1	01421	14010 01477
.	01354			ENT	87*OELTAO	01422	12700 06000
.	01355			STR	Q*L(S+11	01423	14010 01424
.	01356			ENT	A*WIO1	01424	11030 00000
.	01357			STR	A*W(SYSTAT21	01425	15030 53314
.	01360			STR	A*W(SYSTAT2+871	01426	15037 53314
.	01361		MOVER	MOVE	240*DATA*HEAO	01427	12700 00027
						01430	10037 63000
						01431	14037 02070
						01432	72700 01430
.	01362			RJP	PFO	01433	65000 05557 08CC
.	01363			0	HEAO+2	01434	00000 02072
.	01364			800	1	01435	00120 00001
.	01365			RJP	E	01436	65000 02202
.	01366			ENT	Q*L(HEAO+190)	01437	10010 02113
.	01367			CL	A*	01440	11000 00000
.	01370			OIV	7	01441	23000 00007
.	01371			LSH	A*1	01442	06000 00001
.	01372			ENT	81*A	01443	12170 00000
.	01373			RJP	PFO	01444	65000 05557 08CC
.	01374			1	OAYS	01445	00001 02161
.	01375			100	810	01446	00012 00121
.	01376			RJP	E	01447	65000 02202
.	01377			ENT	A*L(HEAO+1801	01450	10100 02112
.	01400			LSH	A*1	01451	06000 00001 2M-1
.	01401			ENT	81*A	01452	12170 00000
.	01402			RJP	PFO	01453	65000 05557 08CC
.	01403			1	MONTH	01454	00001 02127
.	01404			100	900	01455	00012 00132
.	01405			RJP	E	01456	65000 02202
.	01406			PUT	U(HEAO+1801*L(YEAR1	01457	10020 02112
						01460	14010 02177
.	01407			PUT	U(HEAO+1901*L(OAYNO1	01461	10020 02113
						01462	14010 02200
.	01410			RJP	PINT	01463	65000 05362 01NT
.	01411			0	OAYNO	01464	00000 02200
.	01412			2	1000	01465	00002 00144
.	01413			RJP	E	01466	65000 02202
.	01414			RJP	PFO	01467	65000 05557 08CC
.	01415			0	COMMA	01470	00000 02201
.	01416			1	1030	01471	00001 00147
.	01417			RJP	E	01472	65000 02202
.	01420			RJP	PINT	01473	65000 05362 01NT
.	01421			0	YEAR	01474	00000 02177
.	01422			4	1040	01475	00004 00150
.	01423			RJP	E	01476	65000 02202
.	01424		PICKPGM	ENT	A*L(01	01477	11010 00000
.	01425			SUB	A*1	01500	21000 00001
.	01426			STR	A*L(TEMP1	01501	15010 02204
.	01427			SUB	A*5*ANOT	01502	21500 00005
.	01430			JP	TALKHENRY	01503	61000 01521
.	01431			ENT	A*L(TEMP1	01504	11010 02204
.	01432			SUB	A*4*ANOT	01505	21500 00004


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..... PRINTOUT ..... SPURT OUTPUT NO. 210
J00*1/22/65
CAROS L1 IO LABEL TA STATEMENT LOC F JKB Y NOTES
* C1433 JP TALKHENRY 01506 61000 01521
* C1434 ENT A*L(TEMP) 01507 11010 02204
* C1435 LSH A*1 01510 06000 00001
* C1436 A00 A*L(TEMP) 01511 20010 02204
* C1437 A00 A*PGMTABLE 01512 20000 01577
* C1440 STR A*L(WHICHCPGM) 01513 15010 01515
* C1441 RJP PFO 01514 65000 05557
* C1442 WHICHCPGM 0 01515 00000 00000
* C1443 150 1120 01516 00017 00160
* C1444 RJP E 01517 65000 02202
* C1445 JP ARNOHEA 01520 61000 01525
* C1446 RJP PFO 01521 65000 05557
* C1447 0 HEA0+210 01522 00000 02115
* C1450 150 1120 01523 00017 00160
* C1451 RJP E 01524 65000 02202
* C1452 ARNOHEA PUT 61000*U(PSCR18SW) 01525 10000 01000
* C1453 RJP PSCR18 01526 14020 06123
* C1454 0 1 01527 65000 06057
* C1455 RJP E 01530 00000 00001
* C1456 PUT U(PACKBUFF1*L(ARNOHENRY+11) 01531 65000 02202
* C1457 PUT 12000*U(PSCR18SW) 01532 10020 07205
* C1460 ARNOHENRY MOVE 260*MYOUT*MYHEA 01533 14010 01537
* C1461 ENT A*W(HEA0+21*ANOT 01534 10000 12000
* C1462 JP WISEGUY 01535 14020 06123
* C1463 CL B5* 01536 12700 00031
* C1464 MORELOOK 01537 10037 02406
* C1465 JP NOTZERO 01540 14037 02242
* C1466 STR B0*CPW(HEA0+2*85) 01541 72700 01537
* C1467 JP GETOUT 01542 11530 02072
* C1470 NOTZERO BSK B5*150 01543 61000 01564
* C1471 JP MORELOOK 01544 12500 00000
* C1472 STR B0*CPW(HEA0+1801 01545 11435 02072
* C1473 JP ADJUSTBUFR*KEY1 01546 61000 01551
* C1474 RJP U(INTERCOM) 01547 16075 02072
* C1475 U-TAG ANTTITLE*0 01550 61000 01554
* C1476 RJP U(INTERCOM) 01551 71500 00017
* C1477 U-TAG PRINTTITLE*0 01552 61000 01545
* C1500 ENT A*1 01553 16070 02112
* C1501 RSE CP*L(MSWITCH) 01554 61100 01561
* C1502 EXIT 01555 65020 53426
* C1503 WISEGUY MOVE 160*MUTE*MYHEA 01556 04415 00000
* C1504 RJP U(INTERCOM) 01557 65020 53426
* C1505 U-TAG ANTTITLE*0 01560 04424 00000
* C1506 RJP U(INTERCOM) 01561 11000 00001
* C1507 01562 55010 02221
* C1508 01563 61010 01403
* C1509 01564 12700 00017
* C1510 01565 10037 04426
* C1511 01566 14037 02242
* C1512 01567 72700 01565
* C1513 01570 55020 53426
* C1514 01571 04416 00000
* C1515 01572 65020 53426

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SAY TITLE FOLLOWS
PRINT THE TITLE

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..... SPURT OUTPUT NO. 210
PRINTOUT J00*1/22/65
.....

CARDS  L1 IO LABEL      TA STATEMENT      LOC  F  JK8 Y  NOTES
-----
* 01507      U-TAG      BEHEAEO*0      01573 04460 00000
* 01510      JP ADJUSTBUFR      01574 61000 01561
* 01511      CL WICOMPARESTI      01575 16030 04520
* 01512      JP CKCENTH      01576 61000 00136
* 01513      FO 3*BELT SYSTEM      01577 07122 13105
      01600 30363 03112
      01601 22050 50505
* 01514      FO 3*SATELLITE SYSTM      01602 30063 11221
      01603 21163 11205
      01604 30363 03122
* 01515      FO 3*FIXED AZIM-ELEV      01605 13163 51211
      01606 05063 71622
      01607 41122 11233
* 01516      FO 3*SUN SYSTEM      01610 30322 30530
      01611 36303 11222
      01612 05050 50505
* 01517      FO 3*STAR SYSTEM      01613 30310 62705
      01614 30363 03112
      01615 22050 50505
* 01520      FO 3*PLANET SYSTEM      01616 25210 62312
      01617 31053 03630
      01620 31122 20505
* 01521      FO 3*MOON SYSTEM      01621 22242 42305
      01622 30363 03112
      01623 22050 50505
* 01522      FO 3*FIXED R.A.-OEC      01624 13163 51211
      01625 05277 50675
      01626 41111 21005
* 01523      PUT W(MAXETIME1*W(COMPAREET)      01627 10030 04522
      01630 14030 04521
      01631 61000 00164
      01632 61000 00000
      01633 16030 01641
      01634 06600 00012
      01635 16070 01641
      01636 52030 07505
      01637 02000 03012
      01640 61010 01632
      01641 00000 00000
      01642 61000 00000
      01643 22030 02064
      01644 07000 00002
      01645 15030 02217
      01646 61010 01642
      01647 51000 00000
      01650 15010 01715
      01651 15010 01664
      01652 15010 01672
      01653 20000 00003
      01654 15010 01676
      01655 20000 00003
      01656 15010 01702

      CLEAR OVERLAP BIT
      DEGEES B19
      OUTPUT RA IN HH M SS.XX FORMAT

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CAROS	L1	IO	LABEL	TA	STATEMENT	LOC	F	JKB	Y	NOTES
•	01552			A00	A*3	01657	20000	00003		
•	01553			STR	A*L(SSXXCOL)	01660	15010	01706		
•	01554			STR	A*L(PTCOL)	01661	15010	01712		
•	01555			RJP	PINT	01662	65000	05362		
•	01556			0	RAHH	01663	00000	04335		
•	01557			2	0	01664	00002	00000		
•	01560			RJP	E	01665	65000	02202		
•	01561			ENT	A*WIRASIGN1*ANEQ	01666	11730	04334		
•	01562			JP	RAPLUS	01667	61000	01674		
•	01563			RJP	PFO	01670	65000	05557		
•	01564			0	NEGSIGN	01671	00000	04277		
•	01565			1	0	01672	00001	00000		
•	01566			RJP	E	01673	65000	02202		
•	01567			RJP	PINT	01674	65000	05362		
•	01570			0	RAHH	01675	00000	04336		
•	01571			2	0	01676	00002	00000		
•	01572			RJP	E	01677	65000	02202		
•	01573			RJP	PINT	01700	65000	05362		
•	01574			0	RASS	01701	00000	04337		
•	01575			2	0	01702	00002	00000		
•	01576			RJP	E	01703	65000	02202		
•	01577			RJP	PINT	01704	65000	05362		
•	01600			0	RASSXX	01705	00000	04340		
•	01601			2	0	01706	00002	00000		
•	01602			RJP	E	01707	65000	02202		
•	01603			RJP	PFO	01710	65000	05557		
•	01604			0	OECPPOINT	01711	00000	04300		
•	01605			1	0	01712	00001	00000		
•	01606			RJP	E	01713	65000	02202		
•	01607			EXIT		01714	61010	01647		
•	01610			0		01715	00000	00000		
•	01611			ENTRY		01716	61000	00000		
•	01612			STR	A*L(BASICCOLLOC)	01717	15010	01764		
•	01613			STR	A*L(OOCCOL)	01720	15010	01733		
•	01614			STR	A*L(SGNCOL)	01721	15010	01741		
•	01615			A00	A*4	01722	20000	00004		
•	01616			STR	A*L(OMINCOL)	01723	15010	01745		
•	01617			A00	A*3	01724	20000	00003		
•	01620			STR	A*L(OSECCOL)	01725	15010	01751		
•	01621			A00	A*3	01726	20000	00003		
•	01622			STR	A*L(OSSXXCOL)	01727	15010	01755		
•	01623			STR	A*L(OPTCOL)	01730	15010	01761		
•	01624			RJP	PINT	01731	65000	05362		
•	01625			0	OECCOG	01732	00000	04273		
•	01626			3	0	01733	00003	00000		
•	01627			RJP	E	01734	65000	02202		
•	01630			ENT	A*W(OECSIGN)*ANEQ	01735	11730	04271		
•	01631			JP	OECPPLUS	01736	61000	01743		
•	01632			RJP	PFO	01737	65000	05557		
•	01633			0	NEGSIGN	01740	00000	04277		
•	01634			1	0	01741	00001	00000		
•	01635			RJP	E	01742	65000	02202		

OUTPUT OEC IN 00 MM SS.X F324
AT

CAROS	LI	IO	LABEL	TA	STATEMENT	LOC	F	JKB	Y	NOTES
.	01636		OECPUS	RJP	PINT	01743	65000	05362		
.	01637		OECPUS	0	OECPIN	01744	00000	04274		
.	01640		OMINCOL	2	0	01745	00002	00000		
.	01641			RJP	E	01746	65000	02202		
.	01642			RJP	PINT	01747	65000	05362		
.	01643			0	OECPIN	01750	00000	04275		
.	01644		OSECCOL	2	0	01751	00002	00000		
.	01645			RJP	E	01752	65000	02202		
.	01646			RJP	PINT	01753	65000	05362		
.	01647			0	OECPIN	01754	00000	04276		
.	01650		OSXXCOL	1	0	01755	00001	00000		
.	01651			RJP	E	01756	65000	02202		
.	01652			RJP	PFO	01757	65000	05557		
.	01653			0	OECPIN	01760	00000	04300		
.	01654		OPTCOL	1	0	01761	00001	00000		
.	01655			RJP	E	01762	65000	02202		
.	01656			EXIT		01763	61010	01716		
.	01657		BASICCOL	0		01764	00000	00000		
.	01660		TENGR16	2342000000		01765	23420	00000		
.	01661		FORROPA	0		01766	00000	00000		
.	01662		FORROPE	0		01767	00000	00000		
.	01663		TELLTOP	FO	1*A	01770	06050	50505		
.	01664			-0	\$+1	01771	77777	01772		
.	01665			FO	0*SET TOP OF PAGE AND CLEAR PRINTER CHANNEL.	01772	30123	10531		10000.815
.						01773	24250	52413		
.						01774	05250	61412		
.						01775	05062	31105		
.						01776	10211	20627		
.						01777	05252	71623		
.						02000	31122	70510		
.						02001	15062	32312		
.						02002	21750	50505		
.						02003	77777	77777		
.	01666		FILLBLNK	-0	1*	02004	05050	50505		
.	01670		FILLNEG	FO	1*-	02005	41050	50505		
.	01671		EVERYN	FO	1*A	02006	06050	50505		
.	01672			-0	\$+1	02007	77777	02010		
.	01673			FO	0*FOR EVERY N TH OATUM ENTER N (0-502010 00)	02007	13242	70512		
.						02011	33122	73605		
.						02012	23053	11505		
.						02013	11063	13222		
.						02014	05122	33112		
.						02015	27052	30551		
.						02016	24416	52424		
.						02017	40050	50505		
.						02020	77777	77777		
.						02021	11050	50505		
.	01674		SAYIT	-0	1*0	02021	00011	02067		
.	01675			FO	11 HOWMANY	02022	00000	00000		
.	01676			11		02023	00000	00000		
.	01677			0		02024	00000	00764		
.	01700			0	5000	02024	00000	00000		
.	01701		BRANONEW	0		02025	00000	00000		

CAROS	LI	IO	LABEL	TA	STATEMENT	LOC	F	JKB	Y	NOTES
•	01702		SIMSWITCH	0		02026	00000	00000		
•	01703		TITLECNT	0		02027	00000	00000		
•	01704		ASKHR	FO	I•A	02030	06050	50505		
•	01705			-0	\$•1	02031	77777	02032		
•	01706			FO	0•START GMT HH	02032	30310	62731		
						02033	05142	23105		
						02034	15150	50505		
						02035	77777	77777		
•	01707			-0		02036	11050	50505		
•	01710		TELLHR	FO	I•0	02037	00011	02060		
•	01711			11	STHR	02040	00000	00000		
•	01712			0	0	02041	00000	00060		
•	01713			0	480	02042	06050	50505		
•	01714		ASKMIN	FO	I•A	02043	77777	02044		
•	01715			-0	\$•1	02044	22220	50505		
•	01716			FO	0•MM	02045	11050	50505		
•	01717		TELLMIN	FO	I•0	02046	00011	02061		
•	01720			11	STMM	02047	00000	00000		
•	01721			0	0	02050	00000	00073		
•	01722			0	590	02051	06050	50505		
•	01723		ASKSEC	FO	I•A	02052	77777	02053		
•	01724			-0	\$•1	02053	30300	50505		
•	01725			FO	0•SS	02054	11050	50505		
•	01726		TELLSEC	FO	I•0	02055	00011	02062		
•	01727			11	STSS	02056	00000	00000		
•	01730			0	0	02057	00000	00073		
•	01731			0	590	02060	00000	00000		
•	01732		STHR	0		02061	00000	00000		
•	01733		STMM	0		02062	00000	00000		
•	01734		STSS	0		02063	00000	00000		
•	01735		TIG	0		02064	26400	00000		
•	01736		0360820	2640000000		02065	34513	56036		
•	01737		RA00EC	3451356036		02066	61000	00044		
•	01740		INSERTA	JP	WLOOP	02067	00000	00372		
•	01741		HOWMANY	0	2500	02070	00000	00000		
•	01742		HEAO	RESERVE	300	02126	00000	00000		
•	01743		HEAOKEY	0		02127	00000	00000		
•	01744		MONTH	0		02130	00000	00000		
•	01745			0		02131	05050	51706		
•	01746			FO	2• JANUARY	02132	23320	62736		
•	01747			FO	2• FEBRUARY	02133	05051	31207		
•	01750			FO	2• MARCH	02134	27320	62736		
•	01751			FO	2• APRIL	02135	05050	50505		
•	01752			FO	2• MAY	02136	22062	71015		
•	01753			FO	2• JUNE	02137	05050	50505		
•	01754			FO	2• JULY	02140	06252	71621		
•	01755			FO	2• AUGUST	02141	05050	50505		
				FO	2•	02142	05052	20636		
				FO	2•	02143	05050	50505		
				FO	2•	02144	17322	31205		
				FO	2•	02145	05050	50505		
				FO	2•	02146	05173	22136		
				FO	2•	02147	05050	50506		

OEC
OEC
360.823
57.2957823

CAROS	LI	IO	LABEL	TA	STATEMENT	LOC	F	JKB	Y	NOTES
.	01756			FD	2* SEPTEMBER	02150	32143	23031		
.	01757			F0	2* OCTOBER	02151	05301	22531		
.	01760			F0	2* NOVEMBER	02152	12220	71227		
.	01761			F0	2* DECEMBER	02153	05050	52410		
.	01762	DAYS		F0	2*THURSDAY	02154	31240	71227		
.	01763			F0	2*FRIDAY	02155	05052	32433		
.	01764			F0	2*SATURDAY	02156	12220	71227		
.	01765			F0	2*SUNDAY	02157	05051	11210		
.	01766			F0	2*MONDAY	02160	12220	71227		
.	01767			F0	2*TUESDAY	02161	31153	22730		
.	01770			F0	2*WEDNESDAY	02162	11063	50505		
.	01771	YEAR		0		02163	13271	51106		
.	01772	DAYNO		0		02164	36050	50505		
.	01773	COMMA		56000	0	02165	30063	13227		
.	01774	E		ENTRY		02166	11063	50505		
.	01775	TEMP		JP	L(E)*STOP	02167	30322	31106		
.	01776	HOURS		RESERVE	5	02170	36050	50505		
.	02000	MINS		0		02171	22242	31106		
.	02001	SECS		0		02172	36050	50505		
.	02002	FOROOP		0		02173	31321	23011		
.	02003	NOPTS		0		02174	06360	50505		
.	02004	OELTIME		0004061115		02175	34121	12312		
.	02005	FX		0		02176	30110	53605		
.	02006	TIME		0		02177	00000	00000		
.	02007	MSWITCH		0		02200	00000	00000		
.	02010	TRSWITCH		0		02201	56000	00000		
.	02011			0		02202	61000	00000		
.	02012	UTAGSWITCH		U-TAG	DATA+50000*DATA	02203	61410	02202		
.	02013			U-TAG	DATA2+50000*DATA2	02204	00000	00000		
.	02014	OATASWITCH		0		02204	74510	53000		
.	02015			0		02225	02611	71000		
.	02016	AZINSW		0		02226	00000	53000		
.	02017			0		02227	00000	71000		
.	02020	ELINSW		0		02230	00000	57000		
.	02021			0		02231	00000	75000		
.	02022	AZOUTSW		0		02232	00000	70000		
.	02023			0		02233	00000	75000		
.	02024	ELOUTSW		0		02234	00000	72000		
.	02025			0		02235	00000	54000		
.	02026	00POUTSW		0		02236	00000	73000		
.				0		02237	00000	55000		
.				0		02240	00000	74000		

OEC .004828

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..... SPURT OUTPUT NO. 210 .....
PRINTOUT J00*1/22/65

CAROS L1 IO LABEL TA STATEMENT LOC F JKB Y NOTES
. 02027 0 OOPPOUT 02241 00000 56000
. 02030 MYHEAO 02242 00000 00000
. 02031 T1 FO 100* HH MM SS 2A(0EG) 0EC(0EG) 002274 05151 50522
          ISTANCE OISTOOT
          02275 22053 03005
          02276 27065 11112
          02277 14400 50511
          02300 12105 11112
          02301 14400 50505
          02302 11163 03106
          02303 23101 20505
          02304 05051 11630
          02305 31112 43105
          02306 05050 52706

. 02032 FO 100* RA00T 02307 11243 10505
          CAZIM TRUERANGE 02310 05050 50506
          02311 37162 20505
          02312 05051 22112
          02313 33050 50505
          02314 05100 63716
          02315 22050 50531
          02316 27321 22706
          02317 23141 20505
          02320 27065 11522
          02321 30400 50505
          02322 05050 50511
          02323 12105 11122
          02324 30400 50505
          02325 05050 50505
          02326 05050 50505
          CR02326 05050 50505
          02327 05050 50505
          02330 05302 70605
          02331 05050 50505
          02332 30111 21005
          02333 05050 50510
          02334 27062 31412
          02335 05052 70623
          02336 14121 12431
          02337 05051 11210
          02340 11243 10505

. 02035 FO 100*00T 02341 05300 63716
          SIOERTINE 02342 22050 50505
          02343 30122 11233
          02344 05050 50510
          02345 12211 23305
          02346 05053 01611
          02347 12273 11622
          02350 12050 50505
          02351 05050 50505
          02352 05050 50505

. 02036 FO 6*

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SPURT OUTPUT NO. 210				JD0*1/22/65			
PRINTOUT							
CAROS	LI IO LABEL	TA STATEMENT	LOC	F JKB Y	NOTES		
.	02037 BTGT	FO 100* TIME ACTUALAZ COMAN002360 AZ COMANOEL COMAN00	02353 02354 02355 02356 02357	05050 50505 05050 50505 05050 50505 05050 50505 05050 50505			
.			02361 02362 02363 02364 02365 02366 02367 02370 02371 02372 02373 02374 02375 02376 02377	05050 61031 32062 10637 05061 03132 06211 22105 10242 20623 11063 70510 24220 52311 12210 51024 22062 31124 25250 52224 11123 00505 05050 50505 05050 50505 05050 50505 05050 50505			
.	02040	FO 6*PP MOOES	02400 02401 02402 02403 02404 02405	05050 50505 05050 50505 05050 50505 05050 50505 05050 50505 05050 50505			
.	02041	FO 6*	02406 02502 02503 02504 02505 02506 02507	00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000 00000			
.	C2042 MYOUT	RESERVE 600	02510 02511 02512 02513 02514 02515 02516 02517 02520 02521 02522 02523 02524 02525 02526 02552 02576 02577	00000 00000			
.	02043 PLORA	0					
.	02044 PLOOEC	0					
.	02045 PLORA01US	0					
.	02046 PLORA0S0T	0					
.	02047 PLORA00T	0					
.	02050 PLOAZ1M	0					
.	02051 PLOELEV	0					
.	02052 PLOCAZ1M	0					
.	02053 PLOTURNG	0					
.	02054 PLOSRA	0					
.	02055 PLOS0EC	0					
.	02056 PLOCRANGE	0					
.	02057 PLORNG00T	0					
.	02060 PLOOEC00T	0					
.	02061 PLOSAZ1M	0					
.	02062 PLOSELEV	0					
.	02063 PLOCELEV	0					
.	02064 PLOSORTIME	0					
.	02065 PLOSSTAT2	0					
.	02066 PLOSPARE1	0					
.	02067 PL2RA	RESERVE 200					
.	02070 PL4RA	RESERVE 200					
.	02071 PL6RA	0					
.	02072 PL60EC	0					

CARD	LI	IO	LABEL	TA	STATEMENT	LOC	F	J	K	R	Y	NOTES
•	C2073		PL6RA0IUS	0		02600	00000	00000	00000			
•	C2074		PL6RA0SOT	0		02601	00000	00000	00000			
•	C2075		PL6RA0OOT	0		02602	00000	00000	00000			
•	C2076		PL6AZIM	0		02603	00000	00000	00000			
•	C2077		PL6ELEV	0		02604	00000	00000	00000			
•	C2100		PL6CAZIM	0		02605	00000	00000	00000			
•	C2101		PL6TRUNG	0		02606	00000	00000	00000			
•	C2102		PL6SRA	0		02607	00000	00000	00000			
•	C2103		PL6SOEC	0		02610	00000	00000	00000			
•	C2104		PL6CRANGE	0		02611	00000	00000	00000			
•	C2105		PL6RNGOOT	0		02612	00000	00000	00000			
•	C2106		PL6OECOOT	0		02613	00000	00000	00000			
•	C2107		PL6SAZIM	0		02614	00000	00000	00000			
•	C2110		PL6SELEV	0		02615	00000	00000	00000			
•	C2111		PL6CELEV	0		02616	00000	00000	00000			
•	C2112		PL6SORTME	0		02617	00000	00000	00000			
•	C2113		PL6SYSTAT2	0		02620	00000	00000	00000			
•	C2114		PL6SPARE1	0		02621	00000	00000	00000			
•	C2115		INSERTX	0		02622	61000	01407				
•	C2116		AZINEQ	JP	WXLOOPX							
•	C2117		ELINEQ	EQUALS	RECAZIM*OELTAO							
•	C2120		AZOUTEQ	EQUALS	RECELEV*OELTAO							
•	C2121		ELOUTEQ	EQUALS	AZIMOUT*OELTAO							
•	C2122		OPOUTEQ	EQUALS	ELEVOUT*OELTAO							
•	C2123		UNPACK	ENTRY	OOPPOUT*OELTAO							
•	C2124			STR	A*L(STOREUNPAK1							
•	C2125			PUT	L(UNPACK)*L(PUTCOUNTER)							
•	C2126			STR	B3*L(SVB3)	02623	61000	00000				UNPACK 1 CHARACTER TO WORD
•	C2127			STR	B4*L(SVB4)	02624	15010	02650				FMA OF UNPACKED TABLE
•	C2130			STR	B5*L(SVB5)	02625	10010	02623				
•	C2131		PUTCOUNTER	PUT	W(O)*W(COUNTER)	02626	14010	02632				
•	C2132			RPL	Y+1*L(UNPACK)	02627	16310	02661				
•	C2133			CL	B3*	02630	16410	02662				
•	C2134			PUT	L(COUNTER)*L(GETPACK)	02631	16510	02663				
•	C2135			ENT	A*U(COUNTER)	02632	10030	00000				
•	C2136			SUB	A*1	02633	14030	02664				INDEX RETURN POINT
•	C2137			STR	A*L(LOOPLIMIT)	02634	36010	02623				CLEAR WORD COUNTER
•	C2140			CL	B4*	02635	12300	00000				FMA OF PACKED TABLE
•	C2141		LOOPSTART	ENT	B5*	02636	10010	02664				WORD COUNT
•	C2142		GETPACK	ENT	Q*W(B3)	02637	14010	02645				WORD COUNT - 1
•	C2143		LOOP1	CL	A*	02640	11020	02664				CLEAR CHARACTER COUNTER
•	C2144			LSH	AQ*6	02641	21000	00001				SET TO LOOP 5 TIMES
•	C2145		STOREUNPAK	STR	A*L(B4)	02642	15010	02653				PACKED WORD
•	C2146			BSK	B4*77777	02643	12400	00000				CLEAR ACCUMULATOR
•	C2147			BJP	B5*LOOP1	02644	12500	00004				NEXT CHARACTER OF PACKED WORD
•	C2150		LOOPLIMIT	BSK	B3*0	02645	10033	00000				STORE IN JNPACK TABLE
•	C2151			JP	LOOPSTART	02646	07000	00006				INDEX JNPACK TABLE
•	C2152			ENT	B3*L(SVB3)	02650	15014	00000				FINISHED THIS WORD...
•	C2153			ENT	B4*L(SVB4)	02651	71400	77777				YES. FINISHED ALL WORDS....
•						02652	72500	02646				
•						02653	71300	00000				
•						02654	61000	02644				
•						02655	12310	02661				
•						02656	12410	02662				

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..... SPURT OUTPUT NO. 210
PRINTOUT JD0*1/22/65
.....

CAROS L) IO LABEL TA STATEMENT LOC F JKB Y NOTES
* 02154 ENT B5*L(SV85) 02657 12510 02663
* 02155 EXIT 02660 61010 02623 YES.
* 02156 SV83 0 02661 00000 00000
* 02157 SV84 0 02662 00000 00000
* 02160 SV85 0 02663 00000 00000
* 02161 COUNTER 0 02664 00000 00000
* 02162 PRINT ENTRY 02665 61000 00000
* 02163 PUT W(JPPRINTOVR)*W(621 02666 10030 02723
02667 14030 00062
02670 10010 02665
02671 14010 02672
02672 10030 00000
02673 14030 02677
02674 36010 02665
02675 11000 02730
02676 65000 02623
02677 00000 00000
02700 10020 02677
02701 22000 00005
02702 26000 02730
02703 14010 02707
02704 26000 00001
02705 14010 02711
02706 11010 02725
02707 15010 00000
02710 11010 02727
02711 15010 00000
02712 14040 00000
02713 06000 00017
02714 50000 02725
02715 15030 02724
02716 76130 02724
02717 61000 02717
02720 70000 01750
02721 23000 00001
02722 61010 02665
02723 60100 02720
02724 00000 00000
02725 00000 00003
02726 00000 00003
02727 00000 00004
02730 00000 00000
03074 61000 00000
03075 10010 03074
03076 14010 03101
03077 36010 03074
03100 12200 00000
03101 73670 00000
03102 10030 03200
03103 14030 00035
03104 13670 07506
03105 61000 03105

INDEX RETURN POINT
JNPack FIELDATA TEXT
COUNT OF WORDS
COUNT OF CHARACTERS

TERMINATE LINE WITH CARRIAGE

LWA OF UNPACKED TEXT

BUFFER CONTROL FOR PRINTING

LINE FEED
LINE FEED
CARRIAGE RETURN
READ SPURT 210 TAPE
INDEX RETURN POINT
ESTABLISH INPJT BUFFER
BINARY-HO TAPE ON UNIT 2
WAIT FOR INTERRUPT

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..... PRINTOUT ..... SPURT OUTPUT NO. 210
J00*1/22/65
CAROS  LI  LO LABEL  TA STATEMENT  F0  5*C .  THE STATUS CODE IS  LOC  F  JKB  Y  NOTES
.  02273 UNITNO  F0  5*C .  THE STATUS CODE IS  03171 10057 50505
.  02274 F0STATCODE F0  2*  03172 31151 20530
.  02275 JPC15EXT  RILJP  C15EXTINT  03173 31063 13230
.  02276 PARITY  PUT  U(UNITNOINT)*U(PMSG)  03174 05102 41112
.  02277  03175 05163 00505
.  02300  03176 05050 50505
.  02301  03177 05050 50505
.  02302 TRYAGAIN  03200 60100 03106
.  02303  03201 10020 03136
.  02304  03202 14020 03224
.  02305  03203 65000 02665
.  02306  03204 00013 03212
.  02307  03205 61000 03266
.  02308  03206 13670 07507
.  02309  03207 70000 77777
.  02310  03210 12000 00000
.  02311  03211 61000 03101
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.  02313  03213 16313 60524
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.  02710  03610 10103 22727
.  02711  03611 12110 56124
.  02712  03612 05311 62212
.  02713  03613 30052 42305
.  02714  03614 22061 42312
.  02715  03615 31161 00531
.  02716  03616 06251 20532
.  02717  03617 23163 10505
.  02718  03618 10750 50505
.  02719  03619 00000 00000
.  02720  03620 06052 50627
.  02721  03621 16313 60524
.  02722  03622 10103 22727
.  02723  03623 12110 56124
.  02724  03624 05311 62212
.  02725  03625 30052 42305
.  02726  03626 22061 42312
.  02727  03627 31161 00531
.  02728  03628 06251 20532
.  02729  03629 23163 10505
.  02730  03630 10750 50505
.  02731  03631 00000 00000
```

..... PRINTOUT				SPURT OUTPUT NO. 210 J00*1/22/65						
CAROS	L1	IO	LABEL	TA	STATEMENT	LOC	F	J	K	Y	NOTES
.	02321		MACHERR	RJP	PBLANK	03265	75050	50505			
.	02322			1	1280	03266	65000	05621			
.	02323			RJP	E	03267	00001	00200			
.	02324			RJP	PFO	03270	65000	02202			
.	02325			0	BADNEWS	03271	65000	05557			
.	02326			300	1	03272	00000	03260			
.	02327			RJP	E	03273	00036	00001			
.	02330			RJP	PSORIB	03274	65000	02202			OSCRIB
.	02331			0	3	03275	65000	06057			
.	02332			RJP	E	03276	00000	00003			
.	02333			RJP	PBLANK	03277	65000	02202			
.	02334			1	1280	03300	65000	05621			OBLANK
.	02335			RJP	E	03301	00001	00200			
.	02336			JP	L (REOTAPE)	03302	65000	02202			
.	02337		KOCTTOFO	ENTRY		03303	61010	03074			
.	02340			CL	A*	03304	61000	00000			
.	02341			LSH	AQ*3	03305	11000	00000			
.	02342			LSH	A*3	03306	07000	00003			
.	02343			LSH	AQ*3	03307	06000	00003			
.	02344			LSH	A*3	03310	07000	00003			
.	02345			LSH	AQ*3	03311	06000	00003			
.	02346			LSH	A*3	03312	07000	00003			
.	02347			LSH	AQ*3	03313	06000	00003			
.	02350			LSH	A*3	03314	07000	00003			
.	02351			LSH	AQ*3	03315	06000	00003			
.	02352			NO-OP		03316	07000	00003			
.	02353		DUMMY	A00	A*W(EXCESS60)	03317	12000	00000			
.	02354		EXCESS60	EXIT		03320	20030	03322			
.	02356		STAT	60606	06060	03321	61010	03304			
.	02357		INPUTAPENO	0		03322	60606	06060			
.	02360			EX-FCT	TAPE*20300000004	03323	00000	00000			
.	02361			RJP	PRINT	03324	13670	07507			
.	02362			110	EOTNEWS	03325	65000	02665			
.	02363		EOTNEWS	JP	L(BACK)*STOP	03326	00013	03330			
.				FO	110*END OF TAPE...MOUNT NEXT TAPE	03327	61410	03115			
.				NO	HI SPEED TO RESUM	A03330	12231	10524			
						03331	13053	10625			
						03332	12757	57522			
						03333	24322	33105			
						03334	23123	53105			
						03335	31062	51205			
						03336	06231	10515			
						03337	16053	02512			
						03340	12110	53124			
						03341	05271	23032			
						03342	22050	50505			
				FO	BO*END OF FILE...RETURNING TO SYSTO3343	12231	10524				
				EM...							
						03344	13051	31621			
						03345	12757	57575			
						03346	27123	13227			
						03347	23162	31405			

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..... PRINTOUT ..... SPURT OUTPUT NO. 210 .....
J00*1/22/65

CARDS   L1 ID LABEL      TA STATEMENT      LOC   F JKB Y   NOTES
-----
. 02365 ENDOFTAPM      FO 7*AN END OF TAPE HAS OCCURRED ON UNO3353
IT

. 02366 ENOTAPEM      FD 6* . HANG NEW TAPE AND START.

. 02367 HSPOUTPUT      0
. 02370 BCOUTPUT      D
. 02371 BCQUES        FD 1*A
. 02372              -D $+1
. 02373              FO D*ELECT O/P... HSP (D) 8CO TAPE 1103374
1 80TH 121

. 02374              -0
. 02375 BCOANS        FD 1*D
. 02376              11 ANSOUTPUT
. 02377              0
. 02400              2
. 02401 ANSOUTPUT      0
. 02402 SAVEALL      ENTRY
. 02403              STR A*(KPA)
. 02404              STR Q*(KPQ1)
. 02405              STR B1*(KP11)
. 02406              STR B2*(KP21)
. 02407              STR B3*(KP3)
. 02410              STR B4*(KP41)
. 02411              STR B5*(KP51)
. 02412              STR B6*(KP6)
. 02413              STR B7*(KP71)
. 02414              EXIT
. 02415 RSTORALL      ENTRY
. 02416              ENT A*(KPA)
. 02417              ENT Q*(KPQ)
. 02420              ENT B1*(KP11)
. 02421              ENT B2*(KP2)

02375 05247 42575
02376 75750 51530
02377 25055 12440
03400 05050 71011
03401 05310 52512
03402 05516 14005
03403 05072 43115
03404 05516 24005
03405 77777 77777
03406 11050 50505
03407 00011 03412
03410 00000 00000
03411 00000 00002
03412 00000 00000
03413 61000 00000
03414 15030 03462
03415 14030 03463
03416 16110 03464
03417 16210 03465
03420 16310 03466
03421 16410 03467
03422 16510 03470
03423 16610 03471
03424 16710 03472
03425 61010 03413
03426 61000 00000
03427 11030 03462
03430 10030 03463
03431 12110 03464
03432 12210 03465

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..... PRINTOUT ..... SPURT OUTPUT NO. 210 .....
J00*1/22/65

CAROS      L1 IO LABEL      TA STATEMENT      LOC      F JKB Y      NOTES
.....
      . 02422      ENT B3*L(KP3)      03433      12310 03466
      . 02423      ENT B4*L(KP4)      03434      12410 03467
      . 02424      ENT B5*L(KP5)      03435      12510 03470
      . 02425      ENT B6*L(KP6)      03436      12610 03471
      . 02426      ENT B7*L(KP7)      03437      12710 03472
      . 02427      EXIT      03440      61010 03426
      . 02430      TOREWQ      03441      06050 50505
      . 02431      -0 $+1      03442      77777 03443
      . 02432      F0 0*TAPE IS OK(0) REWIND IT(1) ENO F103443 31062 51205
      . LE+REWIND(2)

      . 02433      -0      03444      16300 52420
      . 02434      TOREWA      03445      51244 00527
      . 02435      11 REWYORN      03446      12341 62311
      . 02436      0      03447      05163 15161
      . 02437      2      03450      40051 22311
      . 02440      REWYORN      03451      05131 62112
      . 02441      KPA      03452      42271 23416
      . 02442      KPQ      03453      23115 16240
      . 02443      KP1      03454      77777 77777
      . 02444      KP2      03455      11050 50505
      . 02445      KP3      03456      00111 03461
      . 02446      KP4      03457      00000 00000
      . 02447      KP5      03460      00000 00002
      . 02450      KP6      03461      00000 00000
      . 02451      KP7      03462      00000 00000
      . 02452      TAPEOUT      03463      00000 00000
      . 02453      ENTRY      03464      00000 00000
      . 02454      RJP SAVEALL      03465      00000 00000
      . 02455      RJP TRANSLATE      03466      00000 00000
      . 02456      1300 PBUF+1      03467      00000 00000
      . 02457      ENT A*BCOBLCK      03470      00000 00000
      . 02460      RJP PACK      03471      00000 00000
      . 02461      1300 PBUF      03472      00000 00000
      . 02462      RJP WRITE      03473      61000 00000
      . 02463      U-TAG BCOBLCK*250*BCOBLCK      03474      65000 03413
      . 02464      RJP RSTORALL      03475      65000 04060
      . 02465      BCOBLCK      03476      00202 07275
      . 02466      CARRIAGEC      03477      11000 03506
      . 02467      LATOUT      03500      65000 04204
      . 02470      TOPOFAGE      03501      00202 07274
      . 02471      OOBLESF      03502      65000 03746
      . 02472      SINGLESF      03503      03537 03506
      . 02473      WRITE      03504      65000 03426
      . 02474      PUT L(WRITE1=L(WRITEOUT))      03505      61010 03473
      . 02475      RESERVE 260      03506      00000 00000
      . 02476      RESERVE 1300      03540      00000 00000
      . 02477      0 01      03541      00000 00000
      . 02478      0 12      03743      00000 00001
      . 02479      0 20      03744      00000 00012
      . 02480      ENTRY      03745      00000 00020
      . 02481      PUT L(WRITE1=L(WRITEOUT))      03746      61000 00000
      . 02482      03747      10010 03746
      . 02483      WRITE J401 BCO TAPE
      . 02484      SET ADDRESS OF BUFFER C3VTR3DL
      . 02485      WORO

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CARD	LOC	LOC	F	J	K	B	Y	NOTES
02475	RPL Y+1=L(WRITE)	03750	14010	03756				SET FOR NORMAL RETURN
02476	PUT W(JPINTERRUPT)*W(35)	03751	36010	03746				SET INTERRUPT REGISTER
02477	WRITEGAIN	03752	10030	03760				WRITE RCO HO W/INTERRUPT
02500	RIL	03753	14030	00035				WAIT FOR EXTERNAL INTERRUPT
02501	OUT C15*W(0)	03754	13670	07510				PICK UP STATUS WORD
02502	JP HERE	03755	60000	00000				LOCATION OF STATUS JUMP TABLE
02503	RILJP INTERRUPT	03756	74670	00000				JUMP TO APPROPRIATE STATUS ROW
02504	STR C15*W(CHANNEL)	03757	61000	03757				
02505	ENT A*U(CHANNEL)	03760	60100	03761				
02506	RSH A*110	03761	17670	04011				
02507	A00 A*STATCODE	03762	11020	04011				
02510	STR A*L(INTJUMP)	03763	02000	00013				
02511	INTJUMP	03764	20000	04012				
02512	BAOMCH	03765	15010	03766				
02513	PUT L(WRITE)*L(READTAPE)	03766	61010	00000				
02514	JP MACHERR	03767	10010	03746				
02515	EX-FCI C15*2030000010	03770	14010	03074				
02516	RPT 77777	03771	61000	03266				
02517	OIV 1	03772	13670	07511				
02520	EX-FCI C15*0030000010	03773	70000	77777				
02521	RPT 77777	03774	23000	00001				
02522	OIV 1	03775	13670	07512				
02523	WRITEGAIN	03776	70000	77777				
02524	EX-FCI C15*0230000010	03777	23000	00001				
02525	RJP PRINT	04000	61000	03754				
02526	90 NEWTAPE	04001	13670	07513				
02527	EX-FCI C15*2110000010	04002	65000	02665				
02530	EXIT STOP	04004	13670	07514				
02531	RJP PRINT	04005	61410	03746				
02532	120 WAKEUP	04006	65000	02665				
02533	JP WRITEOUT*STOP	04007	00014	04044				
02534	CHANNEL	04010	61400	03756				
02535	STATCODE	04011	00000	00000				
02536	00 BAOMCH	04012	00000	03767				
02537	10 BAOMCH	04013	00004	03767				
02540	14 BAOMCH	04014	00010	03767				
02541	20 BAOMCH	04015	00014	03767				
02542	24 WRITEOUT	04016	00020	03767				
02543	30 BAOMCH	04017	00024	03756				
02544	34 BAOMCH	04020	00030	03767				
02545	40 WRITE	04021	00034	03767				
02546	44 REOUNOANT	04022	00040	03746				
02547	50 BAOMCH	04023	00044	03772				
02550	60 ENOTAPE	04024	00050	03767				
02551	64 BAOMCH	04025	00054	03767				
02552	70 BAOMCH	04026	00060	04001				
02553	74 INTERLCK	04027	00064	03767				
02554	WRITESERVO	04030	00070	03767				
02555	NEWTAPE	04031	00074	04006				
	F0 90*OUNT NEW OUTPUT TAPE ON UNIT ANO4033	04032	11750	50510				
		04033	22243	22331				

SPURT OUTPUT NO. 210
J00*1/22/65

PRINTOUT

TA STATEMENT

O START.

CAROS L1 IO LABEL

LOC F JKB Y NOTES

02556	WAKEUP	FO 100*INTERLOCK FAULT ON OUTPUT TAPE	04034	05231	23405	
		UNIT . FIX IT AND	04035	24323	12532	
			04036	31053	10625	
			04037	12052	42305	
			04040	32231	53105	
			04041	06231	10530	
			04042	31062	73175	
			04043	05050	50505	
			04044	16233	11227	
			04045	21241	02005	
			04046	13063	22131	
			04047	05242	30524	
			04050	32312	53231	
			04051	05310	62512	
			04052	05322	31631	
			04053	05057	50513	
			04054	16350	51631	
			04055	05062	31105	
			04056	30310	62731	
			04057	75050	50505	
			04060	61000	00000	TRANSLATE FIELOATA TO BCO
			04061	10010	04060	
			04062	14010	04063	
			04063	10030	00000	
			04064	14030	04103	FWA OF FIELOATA TEXT
			04065	10010	04103	
			04066	14010	04073	
			04067	14010	04077	
			04070	36010	04060	INDEX RETURN POINT
			04071	37020	04103	CHARACTER COUNT - 1
			04072	12200	00000	CLEAR CHARACTER COUNTER
			04073	11012	00000	NEXT CHARACTER OF FIELOATA TEX
			04074	20000	04104	T
			04075	15010	04076	ADDRESS OF BCO CHARACTER
			04076	11010	00000	BCO TRANSLATION OF FO CHARACTER
			04077	15022	00000	R STORE BCO IN UPPER HALF OF FO
			04100	71220	04103	TEXT HAVE WE TRANSLATED ALL CHARACTER
			04101	61000	04073	ERS...
			04102	61010	04060	YES. RETURN
			04103	00000	00000	SPACE
			04104	00000	00020	SPACE
			04105	00001	00020	SPACE
			04106	00002	00020	SPACE
			04107	00003	00013	SPACE
			04110	00004	00020	SPACE
			04111	00005	00020	SPACE
			04112	00006	00061	A

..... PRINTOUT SPURT OUTPUT NO. 210 JDD#1/22/65			
CAROS	LI	IO	LABEL	TA	STATEMENT	LOC	F JKB Y NOTES
.	C2610	07	62			04113	00007 00062 B
.	C2611	10	63			04114	00010 00063 C
.	C2612	11	64			04115	00011 00064 D
.	C2613	12	65			04116	00012 00065 E
.	C2614	13	66			04117	00013 00066 F
.	C2615	14	67			04120	00014 00067 G
.	C2616	15	70			04121	00015 00070 H
.	C2617	16	71			04122	00016 00071 I
.	C2620	17	41			04123	00017 00041 J
.	C2621	20	42			04124	00020 00042 K
.	C2622	21	43			04125	00021 00043 L
.	C2623	22	44			04126	00022 00044 M
.	C2624	23	45			04127	00023 00045 N
.	C2625	24	46			04130	00024 00046 O
.	C2626	25	47			04131	00025 00047 P
.	C2627	26	50			04132	00026 00050 Q
.	C2630	27	51			04133	00027 00051 R
.	C2631	30	22			04134	00030 00022 S
.	C2632	31	23			04135	00031 00023 T
.	C2633	32	24			04136	00032 00024 U
.	C2634	33	25			04137	00033 00025 V
.	C2635	34	26			04140	00034 00026 W
.	C2636	35	30			04141	00035 00030 X
.	C2637	36	30			04142	00036 00030 Y
.	C2640	37	31			04143	00037 00031 Z
.	C2641	40	74			04144	00040 00074)
.	C2642	41	40			04145	00041 00040 -
.	C2643	42	60			04146	00042 00060 +
.	C2644	43	20			04147	00043 00020 LESS THAN = BLANK
.	C2645	44	13			04150	00044 00013 =
.	C2646	45	20			04151	00045 00020 GREATER THAN = BLANK
.	C2647	46	60			04152	00046 00060 AMPERSAND
.	C2650	47	53			04153	00047 00053 DOLLAR SIGN
.	C2651	50	54			04154	00050 00054 ASTERISK
.	C2652	51	34			04155	00051 00034 (
.	C2653	52	14			04156	00052 00014 QUOTATION MARK
.	C2654	53	13			04157	00053 00013 COLON
.	C2655	54	20			04160	00054 00020 SPACE
.	C2656	55	20			04161	00055 00020 SPACE
.	C2657	56	33			04162	00056 00033 SPACE
.	C2660	57	20			04163	00057 00020 SPACE
.	C2661	60	12			04164	00060 00012 0
.	C2662	61	01			04165	00061 00001 1
.	C2663	62	02			04166	00062 00002 2
.	C2664	63	03			04167	00063 00003 3
.	C2665	64	04			04170	00064 00004 4
.	C2666	65	05			04171	00065 00005 5
.	C2667	66	06			04172	00066 00006 6
.	C2670	67	07			04173	00067 00007 7
.	C2671	70	10			04174	00070 00010 8
.	C2672	71	11			04175	00071 00011 9
.	C2673	72	14			04176	00072 00014 APOSTROPHE
.	C2674	73	73			04177	00073 00073 SEMICOLON = PERIOD

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..... PRINTOUT ..... SPURT OUTPUT NO. 210
J00*1/22/65 .....

CARDS  LI 10 LABEL      TA STATEMENT      LOC  F  JKB Y  NOTES
-----
  . 02675          74 21          04200 00074 00021 /
  . 02676          75 73          04201 00075 00073 .
  . 02677          76 20          04202 00076 00020 SPACE
  . 02700          77 20          04203 00077 00020 STOP
  . 02701          ENTRY          04204 61000 00000 PACK 5 CHARACTERS PER WORD
  . 02702          STR A*(STOREPACK) 04205 15010 04232 FWA OF PACKED TABLE
  . 02703          PUT L(PACK)*L(PUTCOUNT) 04206 10010 04204
  . 02704          PUT W(01*W(WOROCOUNT) 04207 14010 04210
  . 02705          RPL Y+1*(PACK) 04211 14030 04236
  . 02706          CL B3          04212 36010 04204 INDEX RETURN POINT
  . 02707          PUT L(WOROCOUNT)*L(GETCHAR) 04213 12300 00000 CLEAR WORD COUNTER
  . 02710          ENT Q*U(WOROCOUNT) 04215 14010 04227 CHARACTER COUNT
  . 02711          CL A          04216 10020 04236
  . 02712          OIV 5          04217 11000 00000
  . 02713          SUB Q*1        04221 23000 00005 (CHARACTER COUNT)/5
  . 02714          STR Q*(LOOPLIMIT2) 04222 14010 04233 PACKED WORD COUNT - 1
  . 02715          CL B4          04223 12400 00000 CLEAR CHARACTER COUNTER
  . 02716          ENT B5*4       04224 12500 00004 SET TO LOOP 5 TIMES
  . 02717          CL A          04225 11000 00000 CLEAR ACCUMULATOR
  . 02720          LSH A*6        04226 06000 00006
  . 02721          SEL SET*U(B4) 04227 50024 00000 ADD NEXT CHARACTER
  . 02722          BSK B4*77777 04230 71400 77777 INDEX UNPACK TABLE
  . 02723          BJP B5*LOOP2   04231 72500 04226 FINISHED THIS WORD....
  . 02724          STR A*W(B3)   04232 15033 00000 YES. STORE JNPACKED WORD
  . 02725          LOOPLIMIT2    04233 71300 00000 FINISHED STORING PACKED WORDS
  . 02726          JP LOOPSTART2 04234 61000 04224 NO
  . 02727          EXIT          04235 61010 04204 YES.
  . 02730          WOROCOUNT      04236 00000 00000
  . 02731          ENOTAPEU       04237 05107 50505
  . 02732          OECINOMS      04240 61000 00000
  . 02733          CL W(OECSIGN) 04241 16030 04271
  . 02734          JP $+3*QPOS    04242 60200 04245
  . 02735          STR B0*CPW(OECSIGN) 04243 16070 04271
  . 02736          CP Q*         04244 14000 00000
  . 02737          MUL W(036083) 04245 22030 04272
  . 02740          STR A*W(OECOEI) 04246 15030 04273
  . 02741          CL A*         04247 11000 00000
  . 02742          RSH AQ*1       04250 03000 00001
  . 02743          MUL W(06081) 04251 22030 04333
  . 02744          STR A*W(OECMIN) 04252 15030 04274
  . 02745          CL A*         04253 11000 00000
  . 02746          RSH AQ*1       04254 03000 00001
  . 02747          MUL W(06081) 04255 22030 04333
  . 02750          STR A*W(OECSECI) 04256 15030 04275
  . 02751          CL A*         04257 11000 00000
  . 02752          RSH AQ*1       04260 03000 00001
  . 02753          MUL 200*QPOS   04261 22200 00024
  . 02754          AOO A*1        04262 20000 00001
  . 02755          STR A*W(OECSECCXX) 04263 15030 04276

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CAROS	L1	IO	LABEL	TA	STATEMENT	LOC	F	JKB	Y	NOTES
.	02756	.		SUB	A*100*AZERO	04264	21400	00012		
.	02757	.		EXIT		04265	61010	04240		
.	02760	.		STR	A*W(OECSECXX1	04266	15030	04276		
.	02761	.		RPL	Y+1*W(OECSEC	04267	36030	04275		
.	02762	.		EXIT		04270	61010	04240		
.	02763	.		O		04271	00000	00000		
.	02764	.		O	0000005500	04272	00000	05500		DEC 360.83
.	02765	.		O		04273	00000	00000		
.	02766	.		O		04274	00000	00000		
.	02767	.		O		04275	00000	00000		
.	02770	.		O		04276	00000	00000		
.	02771	.		O	41000 0	04277	41000	00000		
.	02772	.		O	75000 0	04300	75000	00000		
.	02773	.		ENTRY		04301	61000	00000		
.	02774	.		CL	W(RASIGN1	04302	16030	04334		
.	02775	.		JP	\$+3*QPOS	04303	60200	04306		
.	02776	.		STR	B0*CPW(RASIGN)	04304	16070	04334		
.	02777	.		CP	Q*	04305	14000	00000		
.	03000	.		MUL	W(024B31	04306	22030	04332		
.	03001	.		STR	A*W(RAHH1	04307	15030	04335		
.	03002	.		CL	A*	04310	11000	00000		F HRS B29
.	03003	.		RSH	AQ*1	04311	03000	00001		
.	03004	.		MUL	W(D60B1)	04312	22030	04333		MIN B0
.	03005	.		STR	A*W(RAHM1	04313	15030	04336		
.	03006	.		CL	A*	04314	11000	00000		F MIN B29
.	03007	.		RSH	AQ*1	04315	03000	00001		
.	03010	.		MUL	W(060B11	04316	22030	04333		
.	03011	.		STR	A*W(RASS1	04317	15030	04337		
.	03012	.		CL	A*	04320	11000	00000		F SEC B29
.	03013	.		RSH	AQ*1	04321	03000	00001		
.	03014	.		MUL	2000*QPOS	04322	22200	00310		
.	03015	.		A00	A*1	04323	20000	00001		
.	03016	.		STR	A*W(RASSXX)	04324	15030	04340		
.	03017	.		SUB	A*1000*AZERO	04325	21400	00144		
.	03020	.		EXIT		04326	61010	04301		
.	03021	.		STR	A*W(RASSXX)	04327	15030	04340		
.	03022	.		RPL	Y+1*W(RASS1	04330	36030	04337		
.	03023	.		EXIT		04331	61010	04301		
.	03024	.	024B3	O	0000000300	04332	00000	00300		DEC 24.83
.	03025	.	060B1	O	0000000170	04333	00000	00170		DEC 60.81
.	03026	.	RASIGN	O		04334	00000	00000		
.	03027	.	RAHH	O		04335	00000	00000		
.	03030	.	RAHM	O		04336	00000	00000		
.	03031	.	RASS	O		04337	00000	00000		
.	03032	.	RASSXX	O		04340	00000	00000		
.	03033	.	LABELA	FO	100* TIME INCOMING INCOMING COMMAND	05311	52212			
.		.		O	COMMAND RECVD R	04342	05051	62310		
.		.				04343	24221	62314		
.		.				04344	05162	31024		
.		.				04345	22162	31405		
.		.				04346	10242	22206		
.		.				04347	23110	50510		


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..... SPURT OUTPUT NO. 210 .....
..... JON*1/22/65 .....

CAROS  LI IO LABEL      TA STATEMENT      LOC  F  JKB Y  NOTES
-----
      .  C3034          FO  100*/A  RECVD OECLN  COMND R/A
                        OMNO OECLN COMNO 00
                        04350 24222 20623
                        04351 11050 52712
                        04352 10334 10527
                        C04353 74060 50505
                        04354 27121 03311
                        04355 05111 21021
                        04356 23050 51024
                        04357 22231 10527
                        04360 74060 50505
                        04361 10242 22311
                        04362 05111 21021
                        04363 23051 02422
                        04364 23110 51124
                        04365 25212 70522
                        04366 24111 23005
                        04367 05301 21030
      .  03035          FO  2*PLR MOOES
      .  03036 LABELB    FO  100* SECS AZIMUTH ELEVATION AZIMUTH
                        H ELEVATION HH MM S
                        04370 05050 63716
                        04371 22323 11505
                        04372 12211 23306
                        04373 31162 42305
                        04374 06371 62232
                        04375 31150 51221
                        04376 12330 63116
                        04377 24230 51515
                        04400 05222 20530
      .  C3037          FO  100*S*SS 000 MM SS*S  HH MM SS*SS 004401
                        00 MM SS*S CYCLES/S
                        04402 11111 10522
                        04403 22053 03075
                        04404 30050 51515
                        04405 05222 20530
                        04406 30753 03005
                        04407 11111 10522
                        04410 22053 03075
                        04411 30051 03610
                        04412 21123 07430
                        04413 12107 50506
                        04414 07101 11205
                        04415 31163 12112
                        04416 06050 50505
                        04417 77777 04420
                        04420 31163 12112
                        04421 05132 42121
                        04422 24343 00505
                        04423 77777 77777
                        04424 06050 50505
                        04425 77777 02072
                        04426 31151 53005
      .  03040          FO  2*EC. ABCOE
      .  03041 TITLEKEY  FO  1*TITLE
      .  03042 ANNTITLE  FO  1*A
      .  03043           -0  $+1
      .  03044           FO  0*TITLE FOLLOWS
                        04420 31163 12112
                        04421 05132 42121
      .  03045          -0
      .  03046 PRINTTITLE FO  1*A
      .  03047           -0  HEAO+2
      .  03050 MUTE      FO  100*THIS IS AN ACEPHALOUS LOGICAL
                        IL
                        04427 16300 50623
                        04430 05061 01225

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.....PRINTOUT

CARDS	L1 IO LABEL	TA STATEMENT	F JKB Y	LOC	NOTES
.	03051	F0 100*		04431 04432 04433 04434 04435 04436 04437 04440	15062 12432 30052 12414 16100 62105 13162 11205 05050 50505 05050 50505 05050 50505 05050 50505
.				04441 04442 04443 04444 04445 04446 04447 04450	05050 50505 05050 50505 05050 50505 05050 50505 05050 50505 05050 50505 05050 50505 05050 50505
.	03052	F0 6*		04451 04452 04453 04454 04455 04456 04457	05050 50505 05050 50505 05050 50505 05050 50505 05050 50505 05050 50505 05050 50505
.	03053 BEHEAOEO	F0 1*A		04460	06050 50505
.	C3054	-0 \$+1		04461	77777 04462
.	C3055	F0 0*00PS,...NO TITLE		04462 04463 04464 04465 04466	24242 53056 75757 52324 05311 63121 12050 50505 77777 77777
.	03056	-0		04467	06050 50505
.	C3057 STQUES	F0 1*A		04470	77777 04471
.	03060	-0 \$+1		04471	14223 10530
.	C3061	F0 0*GMT START (HHMMSS)		04472 04473 04474 04475	31062 73105 51151 52222 30304 00505 77777 77777
.	C3062	-0		04476	11050 50505
.	03063 STANS	F0 1*O		04477	00011 04502
.	03064	11 ANSSTTM		04500	00000 00000
.	03065	0 0		04501	00016 51400
.	C3066	480000D		04502	00000 00000
.	03067 ANSSTTM	0		04503	06050 50505
.	03070 ETQUES	F0 1*A		04504	77777 04505
.	03071	-0 \$+1		04505	14223 10512
.	C3072	F0 0*GMT ENO (HHMMSS)		04506 04507 04510 04511	23110 55115 15222 23030 40050 50505 77777 77777
.	C3073	-0		04512	11050 50505
.	03074 ETANS	F0 1*O		04513	00011 04517
.	03075	11 ANSENOTM		04514	00000 00000
.	C3076	0 0			

..... PRINTOUT				SPURT OUTPUT NO. 210 J00*1/22/65						
CAROS	LI	IO	LABEL	TA STATEMENT	LOC	F	JKB	Y	NOTES		
.	C3077		QNSERTA	4800000	04515	00015	51400				
.	C3100		ANSENOTM	JP QWLOOP	04516	61000	00337				
.	C3101		COMPAREST	0	04517	00000	00000				
.	C3102		COMPAREST	0	04520	00000	00000		ST IN F OAY 828 (TRUE TIME)		
.	C3103		COMPAREST	0	04521	00000	00000				
.	C3104		MAXETIME	3777777777	04522	37777	77777				
.	C3105		OMSHRS	0	04523	00000	00000				
.	C3106		OMSHINS	0	04524	00000	00000				
.	C3107		OMSSSECS	0	04525	00000	00000				
.	C3110		OMEHRS	0	04526	00000	00000				
.	C3111		OMEHINS	0	04527	00000	00000				
.	C3112		OMESECS	0	04530	00000	00000				
.	C3113		OMSECTTG	0	04531	00000	00000				
.	C3114		OMSECTTG	0	04532	00000	00000				
.	C3115		CSKEY	FO 1*MCPLM	04533	22102	51422				
.	C3116		TELLOONE	FO 1*A	04534	06050	50505				
.	C3117			-0 \$+1	04535	77777	04536				
.	C3120			FO 0*00NE.....	04536	11242	31275				
.	C3121			-0	04537	75757	57505				
.	C3122		ASTARX	50000 00000	04540	77777	77777				
.	C3123		ROCONV	ENTRY	04541	50000	00000				
.	C3124			JP ROSTART	04542	61000	00000				
.	C3125		ROPA	0	04543	61000	04551				
.	C3126		ROPE	0	04544	00000	00000		AZ IN REV R19		
.	C3127		ROPR	0	04545	00000	00000		EL IN REV B19		
.	C3130		ROPS	0	04546	00000	00000		TRUERANGE		
.	C3131		ROPG	0	04547	00000	00000		SIOERTIME BEGIN THIS FRAME		
.	C3132		ROSTART	ENT A*(ROINITNO)1*ANEG	04550	00000	00000		AGE THIS POINT THIS FRAME IN S		
.	C3133			JP ROINIT	04551	11730	05027		EC 828		
.	C3134			ENT Q*(ROPA1	04552	61000	04762		FIRST TIME THROUGH		
.	C3135			ENT LP*(RO198ITS1	04553	10030	04544		YES		
.	C3136			LSH AQ*380	04554	40030	05031				
.	C3137			MUL W(ROTHSIXTY)	04555	07000	00046				
.	C3140			LSH AQ*3	04556	22030	05033				
.	C3141			STR A*(ROAZ1	04557	07000	00003				
.	C3142			ENT Q*(ROPA1	04560	15030	05034				
.	C3143			ENT LP*(RO198ITS1	04561	10030	04545				
.	C3144			LSH AQ*380	04562	40030	05031				
.	C3145			MUL W(ROTHSIXTY)	04563	07000	00046				
.	C3146			LSH AQ*3	04564	22030	05033				
.	C3147			STR A*(ROEL1	04565	07000	00003				
.	C3150			ENT A*(ROPR1*ANOT	04566	15030	05035		IS RANG		
.	C3151			JP ROSETK	04567	11530	04546				
.	C3152			ENT A*(ROPR1*APOS	04570	61000	04607				
.	C3153			CP A*	04571	11630	04546				
.	C3154			STR A*(RORANGE)	04572	15040	00000				
.	C3155			CL Q*	04573	15030	05036				
.	C3156			ENT A*(ROK11	04574	10000	00000				
.	C3157			RSH AQ*90	04575	11030	05037				
.	C3160			OIV W(RORANGE1	04576	03000	00011				
.	C3161			STR Q*(ROK111	04577	23030	05036				
.					04600	14030	05040				

.....PRINTOUT.....				SPURT OUTPUT NO. 210 J00*1/22/65						
CAROS	LI	IO	LABEL	TA STATEMENT	LOC	F	JKB	Y	NOTES		
.	03162			ENT A*W(ROK21	04601	11030	05041				
.	03163			CL Q*	04602	10000	00000				
.	03164			RSH AQ*9D	04603	03000	00011				
.	03165			OIV W(RORANGE)	04604	23030	05036				
.	03166			STR Q*W(ROK21)	04605	14030	05042				
.	03167			JP S+3	04606	61000	04611				
.	03170		ROSETK	CL W(ROK11)	04607	16030	05040			RANGE (S INFINITE	
.	03171			CL W(ROK21)	04610	16030	05042				
.	03172			ENT A*W(ROAZ1	04611	11030	05034				
.	03173			ENT Q*W(ROTSF)	04612	10030	05043				
.	03174			RJP COS	04613	65000	05140				
.	03175			STR A*W(ROCOSEAZ)	04614	15030	05044				
.	03176			ENT A*W(ROAZ)	04615	11030	05034				
.	03177			ENT Q*W(ROTSF)	04616	10030	05043				
.	03200			RJP SIN	04617	65000	05151				
.	03201			STR A*W(ROKINAZ1	04620	15030	05045				
.	03202			ENT A*W(ROEL)	04621	11030	05035				
.	03203			ENT Q*W(ROTSF)	04622	10030	05043				
.	03204			RJP COS	04623	65000	05140				
.	03205			STR A*W(ROCOSE1	04624	15030	05046				
.	03206			ENT A*W(ROEL)	04625	11030	05035				
.	03207			ENT Q*W(ROTSF)	04626	10030	05043				
.	03210			RJP SIN	04627	65000	05151				
.	03211			STR A*W(ROKINEL1	04630	15030	05047				
.	03212			ENT Q*W(ROTWSEC1	04631	10030	05050				
.	03213			MUL W(ROPG1	04632	22030	04550				
.	03214			AD0 A*W(ROPS1	04633	20030	04547				
.	03215			SUB A*W(ROTHS(XTY1*APOS	04634	21630	05033				
.	03216			AD0 A*W(ROTHS(XTY1	04635	20030	05033				
.	03217			STR A*W(ROKINEL1	04636	15030	05051				
.	03220			ENT Q*W(ROTSF)	04637	10030	05043				
.	03221			RJP COS	04640	65000	05140				
.	03222			STR A*W(ROCOSSITE)	04641	15030	05052				
.	03223			ENT A*W(ROKINEL1	04642	11030	05051				
.	03224			ENT Q*W(ROTSF)	04643	10030	05043				
.	03225			RJP SIN	04644	65000	05151				
.	03226			STR A*W(ROKINEL1	04645	15030	05053				
.	03227			ENT Q*W(ROCOSE1	04646	10030	05046				
.	03230			MUL W(ROCOSEAZ)	04647	22030	05044				
.	03231			LSH AQ*330	04650	07000	00041				
.	03232			MUL W(ROKINPHEE1	04651	22030	05072				
.	03233			LSH AQ*1	04652	07000	00001				
.	03234			STR A*W(ROTEMP)	04653	15030	05054				
.	03235			ENT Q*W(ROKINEL)	04654	10030	05047				
.	03236			MUL W(ROCOSE1	04655	22030	05073				
.	03237			LSH AQ*2	04656	07000	00002				
.	03240			SUB A*W(ROTEMP)	04657	21030	05054				
.	03241			AD0 A*W(ROK111	04660	20030	05040				
.	03242			STR A*W(ROKACT11	04661	15030	05055				
.	03243			LSH AQ*300	04662	07000	00036				
.	03244			MUL W(ROCOSSITE1	04663	22030	05052				
.	03245			LSH AQ*1	04664	07000	00001				
.	03246			STR A*W(ROTEMP)	04665	15030	05054				

(INCREMENT IN SIDEREAL TIME

PRINTOUT

CAROS	L1	IO	LABEL	TA	STATEMENT	LOC	F	J	K	B	Y	NOTES
-	03247			ENT	Q*W(ROCOSEL1	04666	10030	05046				
-	03250			MUL	W(ROGINAZ1	04667	22030	05045				
-	03251			LSH	AQ*320	04670	07000	00040				
-	03252			STR	Q*W(ROFACT1	04671	14030	05056				
-	03253			MUL	W(RDSINSITE)	04672	22030	05053				
-	03254			LSH	AQ*1	04673	07000	00001				
-	03255			CP	A*	04674	15040	00000				
-	03256			A00	A*WIROTEMP1	04675	20030	05054				
-	03257			STR	A*W(ROXSPRIME)	04676	15030	05057				
-	03260			ENT	Q*W(ROFACT1	04677	10030	05056				
-	03261			MUL	W(ROCOSSITE1	04700	22030	05052				
-	03262			LSH	AQ*1	04701	07000	00001				
-	03263			STR	A*W(ROTEMP1	04702	15030	05054				
-	03264			ENT	Q*W(ROFACT1)	04703	10030	05055				
-	03265			MUL	W(ROINSITE)	04704	22030	05053				
-	03266			LSH	AQ*1	04705	07000	00001				
-	03267			A00	A*WIROTEMP1	04706	20030	05054				
-	03270			STR	A*W(ROXSPRIME)	04707	15030	05060				
-	03271			ENT	Q*W(ROINEL)	04710	10030	05047				
-	03272			MUL	W(ROINPHEE1	04711	22030	05072				
-	03273			LSH	AQ*1	04712	07000	00001				
-	03274			STR	A*W(ROTEMP1	04713	15030	05054				
-	03275			ENT	Q*W(ROCOSEL1	04714	10030	05046				
-	03276			MUL	W(ROCOZAZ)	04715	22030	05044				
-	03277			LSH	AQ*320	04716	07000	00040				
-	03300			MUL	W(ROCOXPHEE1	04717	22030	05073				
-	03301			LSH	AQ*1	04720	07000	00001				
-	03302			A00	A*W(ROTEMP1	04721	20030	05054				
-	03303			STR	A*W(ROZSPRIME1	04722	15030	05061				
-	03304			ENT	A*W(ROK211	04723	11030	05042				
-	03305			R5H	AQ*1	04724	03000	00001				
-	03306			CP	A*	04725	15040	00000				
-	03307			A00	A*W(ROZSPRIME1	04726	20030	05061				
-	03310			STR	A*W(ROZSPRIME)	04727	15030	05061				
-	03311			ENT	Q*W(ROXSPRIME1	04730	10030	05057				
-	03312			MUL	W(ROXSPRIME1	04731	22030	05057				
-	03313			STR	A*W(ROTEMP)	04732	15030	05054				
-	03314			ENT	Q*W(ROXSPRIME1	04733	10030	05060				
-	03315			MUL	W(ROXSPRIME)	04734	22030	05060				
-	03316			A00	A*W(ROTEMP)	04735	20030	05054				
-	03317			ENT	Q*W(RO5CALB24)	04736	10030	05062				
-	03320			RJP	SQRT	04737	65000	05074				
-	03321			JP	S+1	04740	61000	04741				
-	03322			LSH	AQ*310	04741	07000	00037				
-	03323			ENT	A*W(ROZSPRIME)	04742	11030	05061				
-	03324			RJP	ATAN	04743	65000	05257				
-	03325			LSH	AQ*300	04744	07000	00036				
-	03326			MUL	W(ROAOTOREV1	04745	22030	05070				
-	03327			LSH	AQ*1	04746	07000	00001				
-	03330			STR	A*W(ROECOUT1	04747	15030	05065				
-	03331			ENT	A*W(ROXSPRIME)	04750	11030	05060				
-	03332			ENT	Q*W(ROXSPRIME)	04751	10030	05057				
-	03333			RJP	ATAN	04752	65000	05257				

B56
B57 IN REV

CAROS	L) IO LABEL	TA STATEMENT	LOC	F	JKB	Y	NOTES
•	Q3334	RSH AQ*1)APOS	04753	03600	00001		
•	Q3335	A00 A*W(ROTHSIXTY)	04754	20030	05033		
•	Q3336	LSH AQ*300	04755	07000	00036		
•	Q3337	MUL W(RORAOTOREV)	04756	22030	05070		
•	Q3340	LSH AQ*2	04757	07000	00002		B27 IN REV
•	Q3341	STR A*W(RAOUT)	04760	15030	05066		
•	Q3342	EXIT	04761	61010	04542		
•	Q3343	ENT A*W(ROINITINO)	04762	11030	05027		
•	Q3344	CP A*	04763	15040	00000		
•	Q3345	STR A*W(ROINITINO)	04764	15030	05027		
•	Q3346	ENT Q*W(GEOETLAT)	04765	10030	53321		
•	Q3347	MUL W(RODEGRAO)	04766	22030	05067		
•	Q3350	LSH AQ*7	04767	07000	00007		
•	Q3351	STR A*W(ROPHEE)	04770	15030	05071		
•	Q3352	ENT Q*W(ROTSF1	04771	10030	05043		
•	Q3353	RJP SIN	04772	65000	05151		
•	Q3354	STR A*W(ROSINPHEE)	04773	15030	05072		
•	Q3355	ENT A*W(ROPHEE)	04774	10030	05071		
•	Q3356	ENT Q*W(ROTSF)	04775	10030	05043		
•	Q3357	RJP COS	04776	65000	05140		
•	Q3360	STR A*W(ROCOSPHEE)	04777	15030	05073		
•	Q3361	ENT Q*W(YRTRAN)	05000	10030	63327		
•	Q3362	MUL W(ROSINPHEE)	05001	22030	05072		
•	Q3363	LSH AQ*1	05002	07000	00001		
•	Q3364	STR A*W(ROK1)	05003	15030	05037		
•	Q3365	ENT Q*W(ZRTRAN)	05004	10030	53330		
•	Q3366	MUL W(ROCOSPHEE)	05005	22030	05073		
•	Q3367	LSH AQ*2	05006	07000	00002		
•	Q3370	A00 A*W(ROK1)	05007	20030	05037		
•	Q3371	STR A*W(ROK1)	05010	15030	05037		
•	Q3372	ENT Q*W(ZRTRAN)	05011	10030	53330		
•	Q3373	MUL W(ROSINPHEE)	05012	22030	05072		
•	Q3374	LSH AQ*2	05013	07000	00002		
•	Q3375	STR A*W(ROK2)	05014	15030	05041		
•	Q3376	ENT Q*W(YRTRAN)	05015	10030	53327		
•	Q3377	MUL W(ROCOSPHEE)	05016	22030	05073		
•	Q3400	LSH AQ*1	05017	07000	00001		
•	Q3401	SUB A*W(ROK2)	05020	21030	05041		
•	Q3402	STR A*W(ROK2)	05021	15030	05041		
•	Q3403	ENT Q*W(FRAMESIZE1	05022	10030	53101		
•	Q3404	LSH Q*	05023	05000	00001		
•	Q3405	MUL W(ROWNSECI	05024	22030	05064		
•	Q3406	STR Q*W(ROTWSEC)	05025	14030	05050		
•	Q3407	JP ROSTART	05026	61000	04551		
•	Q3410	ROINITINO	05027	00000	00001		
•	Q3411	ROWNEREV	05030	00020	00000		
•	Q3412	RO19BITS	05031	00017	77777		
•	Q3413	ROREVMASK	05032	07777	77777		
•	Q3414	ROTHSIXTY	05033	31103	75523		
•	Q3415	ROAZ	05034	00000	00000		
•	Q3416	ROEL	05035	00000	00000		
•	Q3417	RORANGE	05036	00000	00000		
•	Q3420	ROK1	05037	00000	00000		

SPURT OUTPUT NO. 210
J00*1/22/65

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PRINTOUT

CAROS	LI	IO	LABEL	TA STATEMENT	LOC	F	J	K	B	Y	NOTES
.	03421		RDK11	0 0	05040	00000	00000				
.	03422		ROK2	0 0	05041	00000	00000				
.	03423		ROK21	0 0	05042	00000	00000				
.	03424		ROTSF	0 260	05043	00000	00032				
.	03425		ROCOSAZ	0 0	05044	00000	00000				
.	03426		ROSINAZ	0 0	05045	00000	00000				
.	03427		ROCOSEL	0 0	05046	00000	00000				
.	03430		ROSINEL	0 0	05047	00000	00000				
.	03431		ROTWSEC	0 46100	05050	00000	46100				RAOIAN MEASURE ONE SECS B28
.	03432		ROSITEDR	0 0	05051	00000	00000				
.	03433		ROCOSSITE	0 0	05052	00000	00000				
.	03434		ROINSITE	0 0	05053	00000	00000				
.	03435		ROTEMP	0 0	05054	00000	00000				
.	03436		ROFACT1	0 0	05055	00000	00000				
.	03437		ROFACT2	0 0	05056	00000	00000				
.	03440		ROXSPRIME	0 0	05057	00000	00000				
.	03441		ROXSPRIME	0 0	05060	00000	00000				
.	03442		ROZSPRIME	0 0	05061	00000	00000				
.	03443		ROSCALR24	0 0	05062	00000	00030				
.	03444		ROAOTDOEG	34513 56032	05063	34513	56032				B23
.	03445		ROMONSEC	0 11420	05064	00000	11420				
.	03446		ROECOUT	0 0	05065	00000	00000				
.	03447		RAOUT	0 0	05066	00000	00000				
.	03450		ROEGRAD	0043575063	05067	00435	75063				DEC .01745329829
.	03451		ROAOTOREV	05057 46031	05070	05057	46031				
.	03452		ROPHEE	0 0	05071	00000	00000				
.	03453		ROSNPHEE	0 0	05072	00000	00000				
.	03454		ROCOSPHEE	0 0	05073	00000	00000				
.	03455		SQRT	JP SQRT	05074	61000	05074				ARBITRARY
.	03456			CL Q*	05075	10000	00000				CLEAR Q
.	03457			RPT 140	05076	70000	00016				NORMALIZE
.	03460			RSH AQ*2*AZERO	05077	03400	00002				SHIFT UNTIL A 0
.	03461			JP L(SQRT)*ANOT	05100	60510	05074				ERROR,BIT 28 OR 29 1
.	03462			LSH AQ*280	05101	07000	00034				NORMALIZE IN A
.	03463			STR A*(SQRT+340)*ANOT	05102	15530	05136				STORE NORMALIZED RAOICANO
.	03464			JP SQRT+290	05103	61000	05131				RAOICANO 0
.	03465			RSH A*3	05104	02000	00003				DIVIDE BY 8 FOR LINEAR APPROX
.	03466			COM A*(SQRT+310)*YMORE	05105	04730	05133				SKIP IF BIT 24 0
.	03467			A00 A*(SQRT+330)*SKIP	05106	20130	05135				A00 7/9
.	03470			15140 00000	05107	15140	00000				CP,A,SKIP
.	03471			A00 A*(SQRT+340)*SKIP	05110	20130	05136				ARG/8*7/9*ARG
.	03472			A00 A*(SQRT+320)*SKIP	05111	20130	05134				A00 9/32
.	03473			RSH A*1*SKIP	05112	02100	00001				OIVIOE BY 2
.	03474			A00 A*(SQRT+340)	05113	20030	05136				ARG/8*9/32*ARG
.	03475			STR A*(SQRT+350)	05114	15030	05137				LINEAR APPROX COMPLETE
.	03476			ENT A*(SQRT+340)	05115	11030	05136				ENTER RAOICANO (SCALED AT 28)
.	03477			RSH AQ*2	05116	03000	00002				SCALE AT 26
.	03500			OIV W(SQRT+350)	05117	23030	05137				OIVIOE (SCALED AT 28)
.	03501			A00 Q*(SQRT+350)	05120	26030	05137				
.	03502			RSH Q*1	05121	01000	00001				
.	03503			STR Q*(SQRT+350)	05122	14030	05137				

PRINTOUT

CAROS	LI	IO	LABEL	TA	STATEMENT	LOC	F	JKB	Y	NOTES
•	03504			ENT	A*WISQRT+340)	05123	11030	05136		ENTER RADICAND
•	03505			RSH	AQ*2	05124	03000	00002		SCALE 2(ARG) AT 26
•	03506			OIV	WISQRT+350)	05125	23030	05137		DIVIDE RESULT IN Q
•	03507			ENT	Y*Q*WISQRT+350)	05126	30030	05137		2(RESULT TO A
•	03510			RSH	AQ*1+87*QP05	05127	03207	00001		
•	03511			A00	A*1	05130	20000	00001		ROUND
•	03512			ENT	B7*LIQRT)	05131	12710	05074		EXIT ADDRESS TO B7
•	03513			JP	1+87	05132	61007	00001		RETURN
•	03514				01000 00000	05133	01000	00000		9/32 AT 28
•	03515				04400 00000	05134	04400	00000		7/8 AT 28
•	03516				16000 00000	05135	16000	00000		TEMPORARY
•	03517				0 0	05136	00000	00000		TEMPORARY AT A
•	03520				0 0	05137	00000	00000		ARBITRARY
•	03521			JP	COS	05140	61000	05140		STORE EXIT
•	03522			ENT	B7*L(COS)	05141	12710	05140		FLAG
•	03523			STR	B7*L(SIN)	05142	16710	05151		
•	03524			ENT	B7*1	05143	12700	00001		
•	03525			STR	B7*L(SIN+420)	05144	16710	05223		
•	03526			JP	COS+7*AP05	05145	60600	05147		
•	03527			CP	A*	05146	15040	00000		
•	03530			JP	SIN+2*ANOT	05147	60500	05153		
•	03531			ENT	A*WISIN+600)	05150	11030	05245		COS 10) 1
•	03532			JP	SIN	05151	61000	05151		ARBITRARY
•	03533			STR	B0*L(SIN+420)	05152	16010	05223		FLAG
•	03534			STR	A*WISIN+680)*AP05	05153	15630	05255		
•	03535			CP	A*	05154	15040	00000		SET POSITIVE
•	03536			RPT	290	05155	70000	00035		
•	03537			LSH	A*1*ANEG	05156	06700	00001		SHIFT UNTIL BIT 29 1
•	03540			JP	LI(SIN)	05157	61010	05151		SIN(X) 0
•	03541			LSH	A*290	05160	06000	00035		SHIFT RIGHT 1
•	03542			SUB	Q*87*QP05	05161	27607	00000		ONEG IMPLIES X EXCEEDS PI/2
•	03543			JP	SIN+340	05162	61000	05213		
•	03544			COM	Q*300*YMORE	05163	04300	00036		PREVENT ILLEGITIMATE SHIFT
•	03545			ENT	Q*300	05164	10000	00036		MAX SHIFT 30
•	03546			STR	Q*L(SIN+130)	05165	14010	05166		SOTRE SHIFT COUNT
•	03547			RSH	A*0	05166	02000	00000		SCALE ARGUMENT AT 28
•	03550			COM	A*W(SIN+590)*YMORE	05167	04730	05244		COMPARE WITH PI/2
•	03551			JP	SIN+370	05170	61000	05216		REDUCE TO 1ST QUADRANT
•	03552			RSK	R0*L(SIN+420)	05171	71010	05223		SKIP IF SINE
•	03553			SUB	A*WISIN+590)*SKIP	05172	21130	05244		PI/2-X TO A
•	03554			ENT	Q*WISIN+680)*QP05	05173	10230	05255		CHECK SIGN
•	03555			CP	A*	05174	15040	00000		A BEARS PROPER SIGN
•	03556			STR	A*WISIN+680)	05175	15030	05255		STORE SIGNED ARGUMENT
•	03557			ENT	Q*A	05176	10070	00000		SCALED AT 28
•	03560			MUL	WISIN+680)	05177	22030	05255		X 2 AT 28+28 56
•	03561			RSH	AQ*290	05200	03000	00035		SQUARED AT 27
•	03562			STR	Q*WISIN+690)	05201	14030	05256		STORE X 2
•	03563			ENT	Q*WISIN+640)	05202	10030	05251		C9
•	03564			ENT	B7*3	05203	12700	00003		LOOP 4 TIMES
•	03565			MUL	WISIN+690)	05204	22030	05256		SUM POLYNOMIAL
•	03566			ENT	Q*A	05205	10070	00000		
•	03567			A00	Q*WISIN+600+87)	05206	26037	05245		

SPURT OUTPUT NO. 210 J00•I/22/65				PRINTOUT				LOC				F JKB Y				NOTES			
CAR05	LI	IO	LABEL	TA	STATEMENT			LOC				F	JKB	Y		NOTES			
•	03570				BJP 87•SIN+270			05207				72700	05204						
•	03571				MUL W(SIN+6801			05210				22030	05255			SCALE AT 28			
•	03572				LSH AQ=2			05211				07000	00002			RETURN			
•	03573				JP L(SIN)			05212				61010	05151			CHECK FOR LEGIT SHIFT			
•	03574				COM Q•X77741•YLESS			05213				04240	77741			-30			
•	03575				ENT Q•X77741			05214				10040	77741						
•	03576				STR Q•CPL(SIN+130)			05215				14050	05166			FORM X/(PI/21			
•	03577				RSH AQ=2			05216				03000	00002			CLEAR A			
•	03600				OIV W(SIN+5901			05217				23030	05244			INTEGER TO A, FRACTION IN 2			
•	03601				ENT A=0			05220				11000	00000			O FOR SIN , 1 FOR COS			
•	03602				LSH AQ=L(SIN+1301			05221				07010	05166						
•	03603				LSH AQ=2			05222				07000	00002						
•	03604				A00 A=0			05223				20000	00000						
•	03605				RSH AQ=2			05224				03000	00002						
•	03606				ENT LP•W(SIN+6701•ANOT			05225				40530	05254						
•	03607				ENT LP•W(SIN+6001•ANOT			05226				40530	05245						
•	03610				JP SIN+510			05227				61000	05234						
•	03611				SUB LP•W(SIN+6601			05230				42030	05253			ACCORD SIGN			
•	03612				ENT Q•W(SIN+6801•QP05			05231				10230	05255						
•	03613				CP A=			05232				15040	00000						
•	03614				JP L(SIN1			05233				61010	05151						
•	03615				ENT LP•W(SIN+6501•000			05234				40330	05252						
•	03616				JP SIN+560			05235				61000	05241			CP,Q,QP05			
•	03617				14200 0			05236				14200	00000						
•	03620				SUB Q•W(SIN+660)•SKIP			05237				27130	05253						
•	03621				A00 Q•W(SIN+6601			05240				26030	05253						
•	03622				MUL W(SIN+5901			05241				22030	05244						
•	03623				LSH AQ=2			05242				07000	00002			SCALE AT 28			
•	03624				JP SIN+180			05243				61000	05173			RETURN			
•	03625				31103 75524			05244				31103	75524			PI/2 AT 28			
•	03626				20000 00000			05245				20000	00000			C1 180 AT 28			
•	03627				52525 25600			05246				52525	25600			C3-0\$1666 665669E00831			
•	03630				10420 71732			05247				10420	71732			C5 0.833302519E-2834			
•	03631				76301 15701			05250				76301	15701			C7-.1980741431E-3837			
•	03632				00127 23405			05251				00127	23405			C9 0.2601886909E-5840			
•	03633				60000 00000			05252				60000	00000						
•	03634				40000 00000			05253				40000	00000						
•	03635				17777 77777			05254				17777	77777			TEMPORARY			
•	03636				0 0			05255				00000	00000			TEMPORARY			
•	03637				0 0			05256				00000	00000						
•	03640		ATAN		JP ATAN			05257				61000	05257			SET POSITIVE			
•	03641				STR A•W(ATAN+6201•AP05			05260				15630	05355			SET POSITIVE			
•	03642				CP A=			05261				15040	00000			FLAG BEARS SIGN (\$Y\$-\$X\$1			
•	03643				STR Q•W(ATAN+630)•QP05			05262				14230	05356			RESTORE A			
•	03644				CP Q=			05263				14000	00000			MIN (\$Y\$,\$X\$1 TO A			
•	03645				STR A-Q•W(ATAN+6401			05264				33030	05357			INTERCHANGE A,Q			
•	03646				ENT Y+Q•A			05265				30070	00000			OIVISOR Q MAX (\$Y\$,\$X\$1			
•	03647				COM Q•A•YLESS			05266				04270	00000			SCALE OIVIOENO AT 28			
•	03650				LSH AQ=300			05267				07000	00036			OIVISOR AT 0			
•	03651				STR Q•W(ATAN+650)			05270				14030	05360						
•	03652				RSH AQ=2			05271				03000	00002						
•	03653				OIV W(ATAN+650)•NQ0F			05272				23230	05360						

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PRINTOUT

CAROS	LI	IO	LABEL	TA	STATEMENT	LOC	F	JK8	Y	NOTES
.	C3654			JP	L(ATAN)	05273	61010	05257		
.	C3655			STR	Q*W(ATAN+650)	05274	14030	05360		QUOTIENT AT 28
.	C3656			SUB	A=A	05275	21070	00000		CLEAR ACCUMULATOR
.	C3657			LSH	AQ*6*QP0S	05276	07200	00006		ROUND TO NEAREST 16TH
.	C3660			ADD	A=1	05277	20000	00001		
.	C3661			ENT	87*A	05300	12770	00000		LOAD INDEX REGISTER FOR TABLE
.										LOOKUP
.	C3662			STR	Q*W(ATAN+660)	05301	14030	05361		Y-YR AT 34
.	C3663			ENT	Q=A	05302	10070	00000		YR AT 4
.	C3664			MUL	W(ATAN+650)	05303	22030	05360		Y YR AT 4+28 32
.	C3665			ADD	A=4	05304	20000	00004		4 1 AT 2 + 30 32
.	C3666			RSH	AQ*4	05305	03000	00004		SCALE AT 1 + Y YR AT 28 14 Q
.										
.	C3667			STR	Q*W(ATAN+650)	05306	14030	05360		
.	C3670			ENT	A*W(ATAN+660)	05307	11030	05361		Y YR AT 34
.	C3671			RSH	AQ*80	05310	03000	00010		SCALE DIVIDEND AT 34-8+30
.	C3672			OIV	W(ATAN+650)	05311	23030	05360		(Y-Y)/(1+Y YR)
.	C3673			STR	Q*W(ATAN+650)	05312	14030	05360		2 AT 28
.	C3674			MUL	W(ATAN+650)	05313	22030	05360		Z 2 AT 56
.	C3675			OIV	W(ATAN+430)	05314	23030	05332		-3 AT 26,Q AT 56-26 30
.	C3676			MUL	W(ATAN+650)	05315	22030	05360		-Z 3/3 AT 28
.	C3677			ADD	A*W(ATAN+650)	05316	20030	05360		Z - Z 3/3 AT 28
.	C3700			ADD	A*W(ATAN+450+871	05317	20037	05334		ADO TABLE ENTRY
.	C3701			ENT	Q*W(ATAN+640)*ONEG	05320	10330	05357		CHECK SIGN (\$Y\$,X\$)
.	C3702			SUB	A*W(ATAN+440)*SKIP	05321	21130	05333		COMPLEMENT ANGLE
.	C3703			CP	A*	05322	15040	00000		SET NEGATIVE
.	C3704			RSH	A=1	05323	02000	00001		RESULT AT 27
.	C3705			ENT	Q*W(ATAN+630)*QP0S	05324	10230	05356		SUPPLEMENT IF X NEGATIVE
.	C3706			ADD	A*W(ATAN+440)*SKIP	05325	20130	05333		PI/2 AT 28 PI AT 27
.	C3707			CP	A*	05326	15040	00000		SET POSITIVE
.	C3710			ENT	Q*W(ATAN+620)*QP0S	05327	10230	05355		ACCORD PROPER SIGN
.	C3711			CP	A*	05330	15040	00000		
.	C3712			JP	L(ATAN)	05331	61010	05257		EXIT
.	C3713			63774	42363	05332	63774	42363		3.0016901 AT 26
.	C3714			31103	75524	05333	31103	75524		PI/2 AT 28 PI AT 27
.	C3715			0	0	05334	00000	00000		ARCTAN(00/16) AT 28
.	C3716			00777	25336	05335	00777	25336		1
.	C3717			01772	55652	05336	01772	55652		2
.	C3720			02756	27552	05337	02756	27552		3
.	C3721			03726	67277	05340	03726	67277		4
.	C3722			04661	16716	05341	04661	16716		5
.	C3723			05573	03120	05342	05573	03120		6
.	C3724			06462	35661	05343	06462	35661		7
.	C3725			07326	14701	05344	07326	14701		8
.	C3726			10145	37512	05345	10145	37512		9
.	C3727			10740	02726	05346	10740	02726		10
.	C3730			11505	74016	05347	11505	74016		11
.	C3731			12227	43722	05350	12227	43722		12
.	C3732			12725	42304	05351	12725	42304		13
.	C3733			13400	51742	05352	13400	51742		14
.	C3734			14031	64134	05353	14031	64134		15
.	C3735			14441	76652	05354	14441	76652		16
.	C3736			0	0	05355	00000	00000		TEMPORARIES


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..... PRINTOUT ..... SPURT OUTPUT NO. 210
J00*1/22/65
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CARDS  LI IO LABEL  TA STATEMENT  LOC  F  JKB Y  NOTES

* 03737 0 0 05356 00000 00000
* 03740 0 0 05357 00000 00000
* 03741 0 0 05360 00000 00000
* 03742 0 0 05361 00000 00000
* 03743 MEANS C2
* 03744 MEANS C2
* 03745 EQUALS O
* 03746 COMMENT ROUTINE
* 03747 COMMENT CALLING
* 03750 COMMENT RJP
* 03751 COMMENT INOE*Y
* 03752 COMMENT NUMCHAR*COL
* 03753 COMMENT ERROR
* 03754 COMMENT NORMAL
* 03755 ENTRY
* 03756 RJP PENTRY
* 03757 JP PINTERR
* 03760 ENT A*W(B6)
* 03761 STR A*W(INTEGER)
* 03762 RJP BINOCINT
* 03763 RJP SUPZRO
* 03764 U-TAG ITOINTEGER*2
* 03765 RJP PLAYUP
* 03766 U-TAG ITOINTEGER*2
* 03767 ENT A*U(1+B7)*ANOT

* 03770 JP PINTB
* 03771 SUB A*W(CHARNO)*APOS

* 03772 JP PINTERRA
* 03773 JP PINTB*AZERO
* 03774 STR A*W($+2)
* 03775 RJP PBLANK
* 03776 0 0
* 03777 JP PINTERR
* 04000 ENT B1*L(PCOLUMN)
* 04001 ENT A*W(SIGN)*AZERO
* 04002 ENT A*41
* 04003 STR A*L(PBUF+B1)
* 04004 BSK B1*1290
* 04005 JP $+2
* 04006 JP PINTERR
* 04007 ENT B6*1
* 04010 PINTC ENT A*W(LAYUPSTOR+B6-1)
* 04011 STR A*L(PBUF+B1)
* 04012 BSK B1*1290
* 04013 JP $+2
* 04014 JP PINTERR
* 04015 BSK B6*W(CHARNO)
* 04016 JP PINTC
* 04017 RPL Y*1*L(PINT)
* 04020 RPL Y*1*L(PINT)
* 04021 RPL Y*1*L(PINT)

* 05362 61000 00000
* 05363 65000 06243
* 05364 61000 05432
* 05365 11036 00000
* 05366 15030 07171
* 05367 65000 06664
* 05370 65000 07014
* 05371 07176 00002
* 05372 65000 05265
* 05373 07176 00002
* 05374 11527 00001

* 05375 61000 05406
* 05376 21530 05525

* 05377 61000 05433
* 05400 60400 05406
* 05401 15030 05403
* 05402 65000 05621
* 05403 00000 00000
* 05404 61000 05432
* 05405 12110 06223
* 05406 11430 07173
* 05407 11000 00041
* 05410 15011 07274
* 05411 71100 00201
* 05412 61000 05414
* 05413 61000 05432
* 05414 12600 00001
* 05415 11036 06321
* 05416 15011 07274
* 05417 71100 00201
* 05420 61000 05422
* 05421 61000 05432
* 05422 71630 06525
* 05423 61000 05415
* 05424 36010 05362
* 05425 36010 05362
* 05426 36010 05362

TO PRINT AN INTEGER
SEQUENCE
PINT

$

CONVERT TO DECIMAL
SUPPRESS LEADING ZEROS

COUNT AND STORE SIGNIFICANT
DIGITS
EXAMINE NUMBER OF PLACES IN

IF 0 SKIP BUMPING CTR
N-CHARNO=NO. OF PRINTABLE DIGIT
IF CHARNO GTR N, ERROR

INSERT N-CHARNO-1 BLANKS

ADJUST EXIT LOCATION

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PRINTOUT

CARDS	L1	IO	LABEL	TA	STATEMENT	LOC	F	JKB	Y	NOTES
.	04022				STR B1*(PCOLUMN1	05427	16130	06223		
.	04023				RJP PRESTORE	05430	65000	06576		ADJUST EXIT LOCATION
.	04024				EXIT	05431	61010	05362		NORMAL EXIT
.	04025		PINTERR		ENT A*(PINTERR1)*SKIP	05432	11130	05436		
.	04026		PINTERRA		ENT A*(PINTERR2)	05433	11030	05437		
.	04027				RJP PERRORE	05434	65000	06613		
.	04030				JP PINTERR1	05435	61000	05425		ERROR EXIT
.	04031		PINTERR1		00001 PINT	05436	00001	05362		
.	04032		PINTERR2		00002 PINT	05437	00002	05362		
.	04033				COMMENT					\$
.	04034				COMMENT ROUTINE					TO CONVERT AND STORE THE OCTAL
.	04035				COMMENT OF					DIGITS
.	04036				COMMENT CALLING					A WORD IN THE PRINT BUFFER.
.	04037				COMMENT RJP					SEQUENCE
.	04040				COMMENT INDEX*Y					POCT
.	04041				COMMENT NUMCHAR*COL					
.	04042				COMMENT ERROR					
.	04043				COMMENT NORMAL					
.	04044		POCT		ENTRY					\$
.	04045				RJP PENTRY	05440	61000	00000		
.	04046				JP POCTERR	05441	65000	06243		
.	04047				ENT A*(B6)	05442	61000	05471		
.	04050				STR A*(INTEGER)	05443	11036	00000		PLACE ARG IN INTEGER
.	04051				RJP BINOCIFLO	05444	15030	07171		
.	04052				RJP PLAYUP	05445	65000	06715		CONVERT TO FIELOATA
.	04053				U-TAG IOINTEGER*2	05446	65000	06265		
.	04054				ENT A*(I1+B71)*ANOT	05447	07176	00002		
.	04055				ENT A*100	05450	11527	00001		GET N
.	04056				SUB A*100	05451	11000	00012		IF 0 IMPLIES 10
.	04057				CP A*	05452	21000	00012		TAKE 10-N
.	04060				ENT B7*A	05453	15040	00000		
.	04061		POCTA		ENT A*(LAYUPSTOR+B71	05454	12770	00000		GET LOWER N DIGITS
.	04062				STR A*(PBUF+B11	05455	11037	06322		
.	04063				BSK B1*1290	05456	15011	07274		
.	04064				JP \$+2	05457	71100	00201		
.	04065				JP POCTERR	05460	61000	05462		
.	04066				BSK B7*90	05461	61000	05471		
.	04067				JP POCTA	05462	71700	00011		
.	04070				ENT A*3	05463	61000	05455		
.	04071		POCTB		RPL A*Y*(POCT1	05464	11000	00003		
.	04072				STR B1*(PCOLUMN)	05465	24010	05440		
.	04073				RJP PRESTORE	05466	16130	06223		
.	04074				EXIT	05467	65000	06576		
.	04075		POCTERR		ENT A*(POCTERR1)	05470	61010	05440		
.	04076				RJP PERRORE	05471	11030	05475		
.	04077				ENT A*2	05472	65000	06613		
.	04100				JP POCTB	05473	11000	00002		
.	04101		POCTERR1		00001 POCT	05474	61000	05465		
.	04102				COMMENT	05475	00001	05440		\$
.	04103				COMMENT ROUTINE					TO CONVERT A FIXED POINT NUMBE
.	04104				COMMENT PLACE					R AND
.										IT IN THE PRINT BUFFER.

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PRINTOUT

CAROS	L1	IO	LABEL	TA	STATEMENT	LOC	F	JKB	Y	NOTES
.	04105			COMMENT	CALLING	05476	61000	00000		SEQUENCE
.	04106			COMMENT	RJP	05477	65000	06243		PFIX
.	04107			COMMENT	INDEXT*Y	05500	61000	05550		NUMCHARFRAC
.	04110			COMMENT	BINPT*COL	05501	16620	05507		\$
.	04111			COMMENT	NUMCHARINT*	05502	11027	00001		STORE ARGUMENT ADDRESS
.	04112			COMMENT	ERROR	05503	15010	05507		GET GAMMA
.	04113			COMMENT	NORMAL	05504	11017	00002		GET BETA
.	04114		PPIX	ENTRY		05505	15030	07170		CONVERT NJMBER AND ZERO SUPPRE
.	04115			RJP	PENTRY	05506	65000	06756		SS
.	04116			JP	PPIXERR	05507	00000	00000		SPREAD OUT SUPPRESSED INTEGER
.	04117			STR	B6*U(PPIXB1)	05510	65000	06265		GET NO OF INTEGERS TO PRINT
.	04120			ENT	A*U(1+B71)	05511	07176	00002		SUBTRACT NO OF SIGNIFICANT
.	04121			STR	A*L(PPIXB1)	05512	11027	00002		OIGITS, IF GRTR, ERROR
.	04122			ENT	A*L(2+B71)	05513	21630	06525		INSERT N-CHARNO-1 BLANKS
.	04123			STR	A*W(BETA1)	05514	61000	05551		
.	04124			RJP	COFFIX	05515	60400	05523		
.	04125		PPIXB	O	O	05516	15010	05520		
.	04126			RJP	PLAYUP	05517	65000	05621		
.	04127			U-TAG	IOINTEGER*2	05520	00000	00000		
.	04130			ENT	A*U(2+B71)	05521	61000	05550		
.	04131			SUB	A*W(CHARNO1)*APOS	05522	12110	06223		
.	04132			JP	PPIXERRA	05523	11430	07173		
.	04133			JP	PPIXC*AZERO	05524	11000	00041		
.	04134			STR	A*L(\$*21)	05525	15011	07274		
.	04135			RJP	PBLANK	05526	71100	00201		
.	04136			O	O	05527	61000	05531		
.	04137			JP	PPIXERR	05530	61000	05550		
.	04140			ENT	B1*L(PCOLUMN1)	05531	12600	00001		
.	04141			ENT	A*W(SIGN)*AZERO	05532	11036	06321		
.	04142		PPIXC	ENT	A*41	05533	15011	07274		
.	04143			STR	A*L(PBUF+B11)	05534	71100	00201		
.	04144			BSK	B1*I290	05535	61000	05537		
.	04145			JP	\$+2	05536	61000	05550		
.	04146			JP	PPIXERR	05537	71630	06525		
.	04147			ENT	B6*1	05540	61000	05532		
.	04150		PPIXO	ENT	A*W(LAYUPSTOR+B6-11)	05541	65000	06526		
.	04151			STR	A*L(PBUF+B11)	05542	61000	05550		
.	04152			BSK	B1*I290	05543	11000	00004		
.	04153			JP	\$+2	05544	24010	05476		
.	04154			JP	PPIXERR	05545	16130	06223		
.	04155			BSK	B6*W(CHARNO1)	05546	65000	06576		
.	04156			JP	PPIXO	05547	61010	05476		
.	04157			RJP	PFRACSTOR	05550	11130	05555		
.	04160			JP	PPIXERR	05551	11030	05556		
.	04161		PPIXF	ENT	A*4					NORMAL EXIT
.	04162			RPL	A*Y*L(PPIX1)					COMMON EXIT PATH
.	04163			STR	B1*W(PCOLUMN1)					
.	04164			RJP	PRESTORE					
.	04165			EXIT						
.	04166		PPIXERR	ENT	A*W(PPIXERR1)*SKIP					
.	04167		PPIXERRA	ENT	A*W(PPIXERR21)					

CAROS	L1	IO	LABEL	TA	STATEMENT	LOC	F	JKB	Y	NOTES
.	04170			RJP	PERRRR	05552	65000	06613		
.	04171			ENT	A*3	05553	11000	00003		
.	04172			JP	PFXF+1	05554	61000	05544		ERROR EXIT
.	04173		PFXERR1	00001	PFX	05555	00001	05476		
.	04174		PFXERR2	00002	PFX	05556	00002	05476		
.	04175			COMMENT						\$
.	04176			COMMENT	ROUTINE					TO PRINT FIELD DATA
.	04177			COMMENT	CALLING					SEQUENCE
.	04200			COMMENT	RJP					PFO
.	04201			COMMENT	INDEK*Y					
.	04202			COMMENT	NUMCHAR*COL					
.	04203			COMMENT	ERROR					
.	04204			COMMENT	NORMAL					
.	04205		PFO	ENTRY						\$
.	04206			RJP	PENTRY	05557	61000	00000		
.	04207			JP	PFOERR	05560	65000	06243		
.	04210			STR	B6*L(PFOA)	05561	61000	05614		
.	04211			ENT	A*(1+87)*ANOT	05562	16610	05571		STORE ADDRESS OF STRING
.	04212			ENT	A*5	05563	11527	00001		GET NO. OF CHARACTERS
.	04213			STR	A*L(PFOB)	05564	11000	00005		IF ZERO, EQUALS 5
.	04214			ENT	B7*1	05565	15010	05600		
.	04215			ENT	B6*0	05566	12700	00001		
.	04216			ENT	B5*0	05567	12600	00000		
.	04217		PFOA	ENT	Q*(00+85)	05571	10035	00000		GET NEXT FO WORO
.	04220			CL	A*	05572	11000	00000		
.	04221			LSH	AQ*6	05573	07000	00006		
.	04222			STR	A*L(PBUF+B1)	05574	15011	07274		
.	04223			BSK	B1*1290	05575	71100	00201		
.	04224			JP	\$+2	05576	61000	05600		
.	04225			JP	PFOERR	05577	61000	05614		
.	04226		PFOB	BSK	B7*00	05600	71700	00000		
.	04227			JP	\$+2	05601	61000	05603		
.	04230			JP	PFOC	05602	61000	05607		
.	04231			BSK	B6*4	05603	71600	00004		
.	04232			JP	PFOA+1	05604	61000	05572		
.	04233			BSK	B5*-1	05605	71500	77776		
.	04234			JP	PFOA	05606	61000	05571		
.	04235		PFOC	ENT	A*3	05607	11000	00003		
.	04236			RPL	A*Y*L(PFO)	05610	24010	05557		
.	04237			STR	B1*W(PCOLUMN)	05611	16130	06223		
.	04240			RJP	PRESTORE	05612	65000	06576		
.	04241			EXIT		05613	61010	05557		
.	04242		PFOERR	ENT	A*(PFOERR1)	05614	11030	05620		
.	04243			RJP	PERRRR	05615	65000	06613		
.	04244			ENT	A*2	05616	11000	00002		
.	04245			JP	PFOC+1	05617	61000	05610		
.	04246		PFOERR1	00001	PFO	05620	00001	05557		\$
.	04247			COMMENT						TO BLANK AN AREA OF
.	04250			COMMENT	ROUTINE					OUTPUT BUFFER
.	04251			COMMENT	THE					SEQUENCE
.	04252			COMMENT	CALLING					PBLANK
.	04253			COMMENT	RJP					
.	04254			COMMENT	COL*NUMCOLS					

SPURT OUTPUT NO. 210
J00*1/22/65

..... PRINTOUT

CAROS	L1 ID LABEL	TA STATEMENT	LOC	F	JKB	Y	NOTES
.	04255	COMMENT ERROR					
.	04256	COMMENT NORMAL					
.	04257	ENTRY					\$
.	04260	STR A*(PBLANK51	05621	61000	00000		
.	04261	STR Q*(PBLANK6)	05622	15030	05666		
.	04262	STR B7*L(PBLANK2+1)	05623	14030	05667		SAVE ALL REGISTERS
.	04263	STR B1*L(PBLANK2+21	05624	16710	05655		
.	04264	ENT B7*L(PBLANK1	05625	16110	05656		PARAMETER LOCATION
.	04265	ENT A*U(B71*ANOT	05626	12710	05621		
.	04266	JP PBLANK05	05627	11527	00000		COL IS ZERO
.	04267	STR A*L(\$+21	05630	61000	05635		BUILD PCOLR CALLING SEQUENCE
.	04270	RJP PCOLR	05631	15010	05633		
.	04271	00 00	05632	65000	05670		
.	04272	JP PBLANK3	05633	00000	00000		
.	04273	ENT A*(B71*AZERO	05634	61000	05662		
.	04274	JP \$+3	05635	11417	00000		
.	04275	ENT A*1280	05636	61000	05641		
.	04276	SUB A*(PCOLUMN)	05637	11000	00200		
.	04277	ENT B7*A	05640	21030	06223		
.	04300	BJP B7*\$+1	05641	12770	00000		NUMBER OF COLUMNS TO BLANK
.	04301	ENT B1*L(PCOLUMN)	05642	72700	05643		
.	04302	CL A*	05643	12110	06223		
.	04303	STR A*(PBUF*B11	05644	11000	00000		
.	04304	BSK B1*1290	05645	15011	07274		
.	04305	JP \$+2	05646	71100	00201		
.	04306	JP PBLANK3	05647	61000	05651		
.	04307	BJP B7*PBLANK1	05650	61000	05662		
.	04310	STR B1*(PCOLUMN)	05651	72700	05644		
.	04311	RPL Y+1*L(PBLANK1	05652	16130	06223		
.	04312	RPL Y+1*L(PBLANK)	05653	36010	05621		PREPARE EXIT
.	04313	ENT B7*00	05654	36010	05621		
.	04314	ENT B1*00	05655	12700	00000		
.	04315	ENT A*(PBLANK51	05656	12100	00000		
.	04316	ENT Q*(PBLANK61	05657	11030	05666		
.	04317	EXIT	05660	10030	05667		
.	04320	ENT A*(PBLANK4)	05661	61010	05621		
.	04321	RJP PERRORR	05662	11030	05665		ERROR ROUTINE PARAMETER
.	04322	JP PBLANK2	05663	65000	06613		
.	04323	00001 PBLANK	05664	61000	05654		
.	04324	0 0	05665	00001	05621		
.	04325	0 0	05666	00000	00000		
.	04326	COMMENT	05667	00000	00000		\$
.	04327	COMMENT ROUTINE					TO RESET THE COLUMN COUNTER
.	04330	COMMENT CALLING					SEQUENCE
.	04331	COMMENT RJP					PCOLR
.	04332	COMMENT INDEX*COL					
.	04333	COMMENT ERROR					
.	04334	COMMENT NORMAL					
.	04335	ENTRY					\$
.	04336	STR A*(PCOLRG)	05670	61000	00000		
.	04337	STR B7*L(PCOLR1)	05671	15030	05716		
.	04340	ENT B7*L(PCOLR1	05672	16710	05677		LOC OF PARAMETERS
.			05673	12710	05670		

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PRINTOUT

CARDS	LI	ID LABEL	TA STATEMENT	LOC	F	JKB	Y	NOTES
•	04341		ENT A*(B7)	05674	11037	00000		T,Y TO A
•	04342		SEL SET*(PCOLR*)	05675	50030	05714		OF IN AN ENT A INST
•	04343		STR A*(B7)	05676	15030	05700		
•	04344	PCOLR1	ENT B7=0	05677	12700	00000		ENT A WITH COJNTER VALUE
•	04345		O	05700	00000	00000		TEST FOR LINE OVERFLOW
•	04346		COM A*1290*YMORE	05701	04700	00201		TOO BIG, ERROR
•	04347		JP PCOLR3	05702	61000	05710		SET COUNTER
•	04350		STR A*(PCOLUMN)	05703	15030	06223		
•	04351		RPL Y+1*(PCOLR)	05704	36010	05670		
•	04352	PCOLR2	RPL Y+1*(PCOLR)	05705	36010	05670		
•	04353		ENT A*(PCOLRG)	05706	11030	05716		
•	04354		EXIT	05707	61010	05670		PARAMETER WORD FOR ERROR ROUT
•	04355	PCOLR3	ENT A*(PCOLR5)	05710	11030	05715		NE
•	04356		RJP PERRRR	05711	65000	06613		
•	04357		CL W(PCOLUMN)	05712	16030	06223		
•	04360		JP PCOLR2	05713	61000	05705		
•	04361	PCOLR4	ENT A=0	05714	11000	00000		
•	04362	PCOLR5	00001 PCOLR	05715	00001	05670		
•	04363	PCOLRG	O	05716	00000	00000		
•	04364		COMMENT					
•	04365		COMMENT ROUTINE					
•	04366		COMMENT THE					
•	04367		COMMENT CALLING					
•	04370		COMMENT RJP					
•	04371		COMMENT INDEX*NUMCOLS					
•	04372		COMMENT ERROR					
•	04373		COMMENT NORMAL					
•	04374	PCOLIN	ENTRY					
•	04375		STR A*(PCOLIN5)	05717	61000	00000		
•	04376		STR B7*(PCOLIN1)	05720	15030	05746		
•	04377		ENT B7*(PCOLIN)	05721	16710	05726		
•	04400		ENT A*(B7)	05722	12710	05717		LOC OF PARAMETERS
•	04401		SEL SET*(PCOLIN3)	05723	11037	00000		T,Y
•	04402		STR A*(B7)	05724	50030	05744		OR IN AN ENT A INST
•	04403	PCOLIN1	ENT B7=0	05725	15030	05727		
•	04404		O	05726	12700	00000		
•	04405		ADD A*(PCOLUMN)	05727	00000	00000		VALUE OF INCREMENT TO A
•	04406		COM A*1290*YMORE	05730	20030	06223		
•	04407		JP PCOLIN2	05731	04700	00201		TEST FOR LINE OVERFLOW
•	04410		STR A*(PCOLUMN)	05732	61000	05740		TOO MANY CHARACTERS, ERROR
•	04411		RPL Y+1*(PCOLIN)	05733	15030	06223		OK, STORE NEW COLUMN NUMBER
•	04412	PCOLIN1A	RPL Y+1*(PCOLIN)	05734	36010	05717		PREPARE EXIT
•	04413		RPL Y+1*(PCOLIN)	05735	36010	05717		
•	04414		ENT A*(PCOLIN5)	05736	11030	05746		
•	04415	PCOLIN2	EXIT	05737	61010	05717		PARAMETER WORD FOR ERROR ROUT
•	04416		ENT A*(PCOLIN4)	05740	11030	05745		NE
•	04417		RJP PERRRR	05741	65000	06613		
•	04420		CL W(PCOLUMN)	05742	16030	06223		
•	04421	PCOLIN3	JP PCOLIN1A	05743	61000	05735		ERROR EXIT
•	04422	PCOLIN4	ENT A=0	05744	11000	00000		
•	04423	PCOLIN5	00001 PCOLIN	05745	00001	05717		
•			O	05746	00000	00000		

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..... PRINTOUT ..... SPURT OUTPUT NO. 210
J00*1/22/65
CAROS      L1 IO LABEL      TA STATEMENT      LOC      F JKB Y      NOTES
.....
C4424      COMMENT          ROUTINE
C4425      COMMENT          BUFFER
C4426      COMMENT          CALLING
C4427      COMMENT          RJP
C4430      COMMENT          INOE*Y
C4431      COMMENT          ERROR
C4432      COMMENT          NORMAL
C4433      ENTRY
C4434      STR A*W(PIMAGE31
C4435      STR 87*L(PIMAGE11
C4436      ENT 87*L(PIMAGE1
C4437      ENT A*W(87)
C4440      SEL SET*W(PIMAGE21
C4441      STR A*W($+11
C4442      00 00
C4443      STR A*L($+21
C4444      ENT 87*1270
C4445      ENT A*W(00+871
C4446      STR A*W(PBUF+1+87)
C4447      RJP 87*$-2
C4450      RPL Y+1*L(PIMAGE1
C4451      RPL Y+1*L(PIMAGE1
C4452      ENT 87*00
C4453      ENT A*W(PIMAGE31
C4454      EXIT
C4455      ENT A*80
C4456      0 0
C4457      COMMENT
C4460      COMMENT          ROUTINE
C4461
C4462      COMMENT          PRINTED
C4463      COMMENT          CALLING
C4464      COMMENT          RJP
C4465      COMMENT          LINES*STOP*LINE$80T
C4466      COMMENT          ERROR
C4467      COMMENT          NORMAL
C4470      ENTRY
C4471      STR A*W(PFORASTOR1
C4472      STR 87*L(PFOR8STR1
C4473      ENT 87*L(PFORM1
C4474      ENT A*U(871
C4475      A00 A*1
C4476      STR A*W(TOPLINE1
C4477      ENT A*L(871
C4478      STR A*W(80TARG)
C4480      A00 A*W(TOPLINE1
C4481      COM A*PAGE$IZE+1*YMORE
C4482      JP PFORMERR
C4483      ENT A*PAGE$IZE
C4484      SUB A*W(80TARG)
C4485      STR A*W(80TLINE1
C4486      ENT A*W(PEXTINT1
C4487
C4488      COMMENT          PRINTED
C4489      COMMENT          CALLING
C4490      COMMENT          RJP
C4491      COMMENT          LINES*STOP*LINE$80T
C4492      COMMENT          ERROR
C4493      COMMENT          NORMAL
C4494      ENTRY
C4495      STR A*W(PFORASTOR1
C4496      STR 87*L(PFOR8STR1
C4497      ENT 87*L(PFORM1
C4498      ENT A*U(871
C4499      A00 A*1
C4500      STR A*W(TOPLINE1
C4501      ENT A*L(871
C4502      STR A*W(80TARG)
C4503      A00 A*W(TOPLINE1
C4504      COM A*PAGE$IZE+1*YMORE
C4505      JP PFORMERR
C4506      ENT A*PAGE$IZE
C4507      SUB A*W(80TARG)
C4508      STR A*W(80TLINE1
C4509      ENT A*W(PEXTINT1
C4510
C4511      COMMENT          PRINTED
C4512      COMMENT          CALLING
C4513      COMMENT          RJP
C4514      COMMENT          LINES*STOP*LINE$80T
C4515      COMMENT          ERROR
C4516      COMMENT          NORMAL
C4517      ENTRY
C4518      STR A*W(PFORASTOR1
C4519      STR 87*L(PFOR8STR1
C4520      ENT 87*L(PFORM1
C4521      ENT A*U(871
C4522      A00 A*1
C4523      STR A*W(TOPLINE1
C4524      ENT A*L(871
C4525      STR A*W(80TARG)
C4526      A00 A*W(TOPLINE1
C4527      COM A*PAGE$IZE+1*YMORE
C4528      JP PFORMERR
C4529      ENT A*PAGE$IZE
C4530      SUB A*W(80TARG)
C4531      STR A*W(80TLINE1
C4532      ENT A*W(PEXTINT1
C4533
C4534      COMMENT          PRINTED
C4535      COMMENT          CALLING
C4536      COMMENT          RJP
C4537      COMMENT          LINES*STOP*LINE$80T
C4538      COMMENT          ERROR
C4539      COMMENT          NORMAL
C4540      ENTRY
C4541      STR A*W(PFORASTOR1
C4542      STR 87*L(PFOR8STR1
C4543      ENT 87*L(PFORM1
C4544      ENT A*U(871
C4545      A00 A*1
C4546      STR A*W(TOPLINE1
C4547      ENT A*L(871
C4548      STR A*W(80TARG)
C4549      A00 A*W(TOPLINE1
C4550      COM A*PAGE$IZE+1*YMORE
C4551      JP PFORMERR
C4552      ENT A*PAGE$IZE
C4553      SUB A*W(80TARG)
C4554      STR A*W(80TLINE1
C4555      ENT A*W(PEXTINT1
C4556
C4557      COMMENT          PRINTED
C4558      COMMENT          CALLING
C4559      COMMENT          RJP
C4560      COMMENT          LINES*STOP*LINE$80T
C4561      COMMENT          ERROR
C4562      COMMENT          NORMAL
C4563      ENTRY
C4564      STR A*W(PFORASTOR1
C4565      STR 87*L(PFOR8STR1
C4566      ENT 87*L(PFORM1
C4567      ENT A*U(871
C4568      A00 A*1
C4569      STR A*W(TOPLINE1
C4570      ENT A*L(871
C4571      STR A*W(80TARG)
C4572      A00 A*W(TOPLINE1
C4573      COM A*PAGE$IZE+1*YMORE
C4574      JP PFORMERR
C4575      ENT A*PAGE$IZE
C4576      SUB A*W(80TARG)
C4577      STR A*W(80TLINE1
C4578      ENT A*W(PEXTINT1
C4579
C4580      COMMENT          PRINTED
C4581      COMMENT          CALLING
C4582      COMMENT          RJP
C4583      COMMENT          LINES*STOP*LINE$80T
C4584      COMMENT          ERROR
C4585      COMMENT          NORMAL
C4586      ENTRY
C4587      STR A*W(PFORASTOR1
C4588      STR 87*L(PFOR8STR1
C4589      ENT 87*L(PFORM1
C4590      ENT A*U(871
C4591      A00 A*1
C4592      STR A*W(TOPLINE1
C4593      ENT A*L(871
C4594      STR A*W(80TARG)
C4595      A00 A*W(TOPLINE1
C4596      COM A*PAGE$IZE+1*YMORE
C4597      JP PFORMERR
C4598      ENT A*PAGE$IZE
C4599      SUB A*W(80TARG)
C4600      STR A*W(80TLINE1
C4601      ENT A*W(PEXTINT1
C4602
C4603      COMMENT          PRINTED
C4604      COMMENT          CALLING
C4605      COMMENT          RJP
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C4607      COMMENT          ERROR
C4608      COMMENT          NORMAL
C4609      ENTRY
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C4611      STR 87*L(PFOR8STR1
C4612      ENT 87*L(PFORM1
C4613      ENT A*U(871
C4614      A00 A*1
C4615      STR A*W(TOPLINE1
C4616      ENT A*L(871
C4617      STR A*W(80TARG)
C4618      A00 A*W(TOPLINE1
C4619      COM A*PAGE$IZE+1*YMORE
C4620      JP PFORMERR
C4621      ENT A*PAGE$IZE
C4622      SUB A*W(80TARG)
C4623      STR A*W(80TLINE1
C4624      ENT A*W(PEXTINT1
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C4627      COMMENT          CALLING
C4628      COMMENT          RJP
C4629      COMMENT          LINES*STOP*LINE$80T
C4630      COMMENT          ERROR
C4631      COMMENT          NORMAL
C4632      ENTRY
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C4634      STR 87*L(PFOR8STR1
C4635      ENT 87*L(PFORM1
C4636      ENT A*U(871
C4637      A00 A*1
C4638      STR A*W(TOPLINE1
C4639      ENT A*L(871
C4640      STR A*W(80TARG)
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C4646      STR A*W(80TLINE1
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C4657      STR 87*L(PFOR8STR1
C4658      ENT 87*L(PFORM1
C4659      ENT A*U(871
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C4662      ENT A*L(871
C4663      STR A*W(80TARG)
C4664      A00 A*W(TOPLINE1
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C4668      SUB A*W(80TARG)
C4669      STR A*W(80TLINE1
C4670      ENT A*W(PEXTINT1
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C4677      COMMENT          NORMAL
C4678      ENTRY
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C4681      ENT 87*L(PFORM1
C4682      ENT A*U(871
C4683      A00 A*1
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C4685      ENT A*L(871
C4686      STR A*W(80TARG)
C4687      A00 A*W(TOPLINE1
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C4704      ENT 87*L(PFORM1
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C4708      ENT A*L(871
C4709      STR A*W(80TARG)
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C4727      ENT 87*L(PFORM1
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C4729      A00 A*1
C4730      STR A*W(TOPLINE1
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C4732      STR A*W(80TARG)
C4733      A00 A*W(TOPLINE1
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C4738      STR A*W(80TLINE1
C4739      ENT A*W(PEXTINT1
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C4750      ENT 87*L(PFORM1
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C4755      STR A*W(80TARG)
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C4777      ENT A*L(871
C4778      STR A*W(80TARG)
C4779      A00 A*W(TOPLINE1
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C4796      ENT 87*L(PFORM1
C4797      ENT A*U(871
C4798      A00 A*1
C4799      STR A*W(TOPLINE1
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C4801      STR A*W(80TARG)
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C4831      ENT A*W(PEXTINT1
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C4837      COMMENT          ERROR
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C4842      ENT 87*L(PFORM1
C4843      ENT A*U(871
C4844      A00 A*1
C4845      STR A*W(TOPLINE1
C4846      ENT A*L(871
C4847      STR A*W(80TARG)
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C4865      ENT 87*L(PFORM1
C4866      ENT A*U(871
C4867      A00 A*1
C4868      STR A*W(TOPLINE1
C4869      ENT A*L(871
C4870      STR A*W(80TARG)
C4871      A00 A*W(TOPLINE1
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C4876      STR A*W(80TLINE1
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C4893      STR A*W(80TARG)
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C4916      STR A*W(80TARG)
C4917      A00 A*W(TOPLINE1
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C4923      ENT A*W(PEXTINT1
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C4934      ENT 87*L(PFORM1
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C4936      A00 A*1
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C4938      ENT A*L(871
C4939      STR A*W(80TARG)
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C4949      COMMENT          CALLING
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C4962      STR A*W(80TARG)
C4963      A00 A*W(TOPLINE1
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C4965      JP PFORMERR
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C4968      STR A*W(80TLINE1
C4969      ENT A*W(PEXTINT1
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C4975      COMMENT          ERROR
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C4982      A00 A*1
C4983      STR A*W(TOPLINE1
C4984      ENT A*L(871
C4985      STR A*W(80TARG)
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C5008      STR A*W(80TARG)
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C5049      ENT 87*L(PFORM1
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C5054      STR A*W(80TARG)
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C5061      ENT A*W(PEXTINT1
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C5063      COMMENT          PRINTED
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C5075      STR A*W(TOPLINE1
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C5077      STR A*W(80TARG)
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C5235      A00 A*1
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C5244      STR A*W(80TLINE1
C5245      ENT A*W(PEXTINT1
C5246
C5247      COMMENT          PRINTED
C5248      COMMENT          CALLING
C5249      COMMENT          RJP
C5250      COMMENT          LINES*STOP*LINE$80T
C5251      COMMENT          ERROR
C5252      COMMENT          NORMAL
C5253      ENTRY
C5254      STR A*W(PFORASTOR1
C5255      STR 87*L(PFOR8STR1
C5256      ENT 87*L(PFORM1
C5257      ENT A*U(871
C5258      A00 A*1
C5259      STR A*W(TOPLINE1
C5260      ENT A*L(871
C5261      STR A*W(80TARG)
C5262      A00 A*W(TOPLINE1
C5263      COM A*PAGE$IZE+1*YMORE
C5264      JP PFORMERR
C5265      ENT A*PAGE$IZE
C5266      SUB A*W(80TARG)
C5267      STR A*W(80TLINE1
C5268      ENT A*W(PEXTINT1
C5269
C5270      COMMENT          PRINTED
C5271      COMMENT          CALLING
C5272      COMMENT          RJP
C5273      COMMENT          LINES*STOP*LINE$80T
C5274      COMMENT          ERROR
C5275      COMMENT          NORMAL
C5276      ENTRY
C5277      STR A*W(PFORASTOR1
C5278      STR 87*L(PFOR8STR1
C5279      ENT 87*L(PFORM1
C5280      ENT A*U(871
C5281      A00 A*1
C5282      STR A*W(TOPLINE1
C5283      ENT A*L(871
C5284      STR A*W(80TARG)
C5285      A00 A*W(TOPLINE1
C5286      COM A*PAGE$IZE+1*YMORE
C5287      JP PFORMERR
C5288      ENT A*PAGE$IZE
C5289      SUB A*W(80TARG)
C5290      STR A*W(80TLINE1
C5291      ENT A*W(PEXTINT1
C5292
C5293      COMMENT          PRINTED
C5294      COMMENT          CALLING
C5295      COMMENT          RJP
C5296      COMMENT          LINES*STOP*LINE$80T
C5297      COMMENT          ERROR
C5298      COMMENT          NORMAL
C5299      ENTRY
C5300      STR A*W(PFORASTOR1
C5301      STR 87*L(PFOR8STR1
C5302      ENT 87*L(PFORM1
C5303      ENT A*U(871
C5304      A00 A*1
C5305      STR A*W(TOPLINE1
C5306      ENT A*L(871
C5307      STR A*W(80TARG)
C5308      A00 A*W(TOPLINE1
C5309      COM A*PAGE$IZE+1*YMORE
C5310      JP PFORMERR
C5311      ENT A*PAGE$IZE
C5312      SUB A*W(80TARG)
C5313      STR A*W(80TLINE1
C5314      ENT A*W(PEXTINT1
C5315
C5316      COMMENT          PRINTED
C5317      COMMENT          CALLING
C5318      COMMENT          RJP
C5319      COMMENT          LINES*STOP*LINE$80T
C5320      COMMENT          ERROR
C5321      COMMENT          NORMAL
C5322      ENTRY
C5323      STR A*W(PFORASTOR1
C5324      STR 87*L(PFOR8STR1
C5
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SPURT OUTPUT NO. 210
J00*1/22/65

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PRINTOUT

CAROS	LI	IO	LABEL	TA	STATEMENT	LOC	F	JKB	Y	LOC	NOTES
.	04510				STR A*(23)	06013	15030	00023			
.	04511				ENT A*1	06014	11000	00001			
.	04512				STR A*(STATUS)	06015	15030	06237			INITIALIZE STATUS
.	04513				ENT A*(LINCNT)	06016	11030	06230			
.	04514				SUB A*(TOPLINE)*ANOT	06017	21530	06226			TEST FOR PAGE TOPPED
.	04515				JP PFORMERR-1	06020	61000	06051			
.	04516				ENT A*PAGESIZE	06021	11000	00102			COMPUTE PAGESIZE-LINCNT
.	04517				SUB A*(LINCNT)	06022	21030	06230			
.	04520				ADD A*(TOPLINE)	06023	20030	06226			PLUS TOPLINE=NO OF LINES
.	04521				COM A*PAGESIZE*YLESS	06024	04600	00102			MODULO PAGESIZE
.	04522				JP \$+3	06025	61000	06030			
.	04523				SUB A*PAGESIZE	06026	21000	00102			
.	04524				JP \$-3	06027	61000	06024			
.	04525				COM A*77*YMORE	06030	04700	00077			
.	04526				RJP PScriBSS	06031	65000	06163			
.	04527				LSH A*180	06032	06000	00022			CONSTRUCT PRINT ORDER
.	04530				SEL SET*(PRINTWD)	06033	50030	06231			
.	04531				STR A*(PScriB)	06034	15030	06232			
.	04532				ENT A*(TOPLINE)	06035	11030	06226			
.	04533				STR A*(LINCNT)	06036	15030	06230			RESET LINCNT TO TOP OF PAGE
.	04534				ENT A*1	06037	11000	00001			RESET PCOLUMN
.	04535				STR A*(PCOLUMN)	06040	15030	06223			
.	04536				NO-OP	06041	12000	00000			
.	04537				ENT A*(STATUS)*ANOT	06042	11530	06237			WAIT FOR COMPLETION
.	04540				JP \$-2	06043	61000	06041			
.	04541				SUB A*1*AZERO	06044	21400	00001			CHECK OK STATUS
.	04542				JP PFORMERR*STOP	06045	61400	06052			
.	04543				CL W(STATUS)	06046	16030	06237			CLEAR STATUS *ORO
.	04544				EX-FCI PRINTC*(PScriB)	06047	13170	06232			ISSUE WITH NO BUFFER
.	04545				OUT PRINTC*(PScriBSS)	06050	74170	06241			
.	04546				RPL Y*1*L(PFORM)	06051	36010	05773			
.	04547	PFORMERR			RPL Y*1*L(PFORM)	06052	36010	05773			
.	04550				ENT A*(PFORASTOR)	06053	11030	06056			
.	04551	PFORBSTR			ENT B7*0	06054	12700	00000			
.	04552				EXIT	06055	61010	05773			
.	04553	PFORASTOR			O 0	06056	00000	00000			
.	04554				COMMENT						\$
.	04555				COMMENT ROUTINE						TO PRINT ONE LINE AFTER SPACIN
.	04556				COMMENT TO						G OR GOING
.	04557				COMMENT CALLING						TOP OF NEXT PAGE. IMAGE ADDRESS
.	04560				COMMENT RJP						S IN PREVIOUS.
.	04561				COMMENT EJECT*SPACING						PScriB
.	04562				COMMENT ERROR						
.	04563				COMMENT NORMAL						
.	04564	PRINTC			MEANS						\$
.	04565	PScriB			ENTRY						
.	04566				RJP PSAVE	06057	61000	00000			
.	04567				ENT A*(PEXTINT)	06060	65000	06563			SET UP PRINT INTERRUPT
.	04570				STR A*(23)	06061	11030	06222			
.	04571				ENT B7*(PScriB)	06062	15030	00023			GET PARAMETER NO ADDRESS
.	04572				ENT A*(B7)*ANOT	06064	12710	06057			TEST FOR PAGE TOPPING

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..... PRINTOUT

CARDS	LI	ID	LABEL	TA	STATEMENT	LOC	F	JKB	Y	NOTES
.	04573			JP	PRSCRIBC	06065	61000	06147		NO
.	04574			ENT	A*(BOTLINE1	06066	11030	06227		YES- COMPJTE LINES TO SKIP
.	04575		PSCRIBA	SUB	A*(LINCNT1	06067	21030	06230		FOR TOP OF NEXT PAGE
.	04576			ADD	A*(BOTMARG1	06070	20030	06225		
.	04577			ADD	A*(TOPLINE1	06071	20030	06226		
.	04600			COM	A*77*YMORE	06072	04700	00077		
.	04601			RJP	PSCRIBSS	06073	65000	06163		
.	04602		PSCRIBB	LSH	A*18D	06074	06000	00022		INSERT IN PRINT FUNCTION WO
.	04603			SEL	SET*(PRINTWD1	06075	50030	06231		
.	04604			STR	A*(PSCRIBC1	06076	15030	06232		
.	04605			ENT	A*(TOPLINE1	06077	11030	06226		RESET LINE COUNT TO TOPLINE
.	04606			STR	A*(LINCNT1	06100	15030	06230		
.	04607		PSCRIBF	ENT	B7*0	06101	12700	00000		CREATE PACKED PRINT BUFFER
.	04610			ENT	B5*(PSCRIBD1	06102	12510	06233		
.	04611		PSCRIBH	ENT	B6*4	06103	12600	00004		
.	04612			ENT	A*0	06104	11000	00000		
.	04613			BSK	B7*129D	06105	71700	00201		
.	04614			ENT	Q*(PBUF+871*SKIP	06106	10137	07274		PACK CHARS FROM PBUF
.	04615			JP	PSCRIBJ	06107	61000	06116		
.	04616			LSH	Q*24D	06110	05000	00030		
.	04617			LSH	AQ*6	06111	07000	00006		
.	04620			BJP	B6*(PSCRIBH+2	06112	72600	06105		STORE INTO PACKED BUFFER
.	04621			STR	A*(B51	06113	15035	00000		
.	04622			BSK	B5*-1	06114	71500	77776		
.	04623			JP	PSCRIBH	06115	61000	06103		LEFT JUSTIFY A REG
.	04624		PSCRIBJ	LSH	A*6	06116	06000	00006		
.	04625			BJP	B6*\$-1	06117	72600	06116		
.	04626			STR	A*(B51	06120	15035	00000		
.	04627		PSCRIBI	ENT	A*1	06121	11000	00001		
.	04630			STR	A*(PCOLUMN1	06122	15030	06223		RESET COLUMN COUNTER TO 1
.	04631		PSCRIBSW	ENT	B0*(PSCRBUF	06123	12000	06134		SWITCH TO SKIP PRINTING
.	04632			NO-OP		06124	12000	00000		LOOP TILL PRINT COMPLETE
.	04633			ENT	A*(STATUS1*ANOT	06125	11530	06237		TEST FOR NORMAL COMPLETION
.	04634			JP	\$-2	06126	61000	06124		NO
.	04635			SUB	A*1*AZERO	06127	21400	00001		
.	04636			JP	PSCRIBERR	06130	61000	06162		
.	04637			CL	W(STATUS1	06131	16030	06237		EXAMINE LAST BUFFER
.	04640			EX-FC	PRINTC*(PSCRIBCI	06132	13170	06232		
.	04641			OUT	PRINTC*(PSCRIBD1	06133	74170	06233		
.	04642		PSCRIBUF	ENT	Q*(TWENTYSIXS1	06134	10030	06224		
.	04643			ENT	A*(PSCRIBD1	06135	11010	06233		
.	04644			STR	A*(PACKRUFF1	06136	15020	07205		
.	04645			COM	A*(REGION+2*YMORE	06137	04700	07210		
.	04646			RPL	Y-Q*(PSCRIBD1*SKIP	06140	35130	06233		
.	04647			RPL	Y-Q*(PSCRIBD1	06141	34030	06233		
.	04650			STR	A*(PACKRUFF1	06142	15010	07205		YES- ADJUST EXIT LINE
.	04651			RPL	Y+1*(PSCRIB1	06143	36010	06057		
.	04652		PSCRIBG	RPL	Y+1*(PSCRIB1	06144	36010	06057		
.	04653			RJP	PRESTORE	06145	65000	06576		
.	04654			EXIT		06146	61010	06057		
.	04655		PSCRIBBC	ENT	A*(BOTLINE1	06147	11030	06227		IF BOTLINE-LINCNT GREATER
.	04656			SUB	A*(LINCNT1	06150	21030	06230		THAN NO OF LINES TO SHIP, FINE

SPURT OUTPUT NO. 210 JDD*1/22/65										
PRINTOUT										
CARDS	L1	IO	LABEL	TA	STATEMENT	LOC	F	JKB	Y	NOTES
.	04657			COM	A*L(B7)*YLESS	06151	04617	00000		
.	04660			JP	PSCRIBA+1	06152	61000	06070		ELSE GO TO TOP PAGE
.	04661			ENT	A*L(R7)	06153	11017	00000		BUMP LINE COUNTER
.	04662			RPL	A+Y*W(LINCNT)	06154	24030	06230		
.	04663			ENT	A*L(B7)	06155	11017	00000		GET NO OF SPACES
.	04664			LSH	A*180	06156	06000	00022		
.	04665			SEL	SET*W(PRINTWD)	06157	50030	06231		INSERT IN PRINT FUNCTION NO
.	04666			STR	A*W(PSCRIBC)	06160	15030	06232		
.	04667			JP	PSCRIBF	06161	61000	06101		GO TO PRINT OUT
.	04670		PSCRIBERR	JP	PSCRIBG*STOP	06162	61400	06144		
.	04671		PSCRIBSS	ENTRY		06163	61000	00000		
.	04672			SUB	A*77	06164	21000	00077		
.	04673			COM	A*77*YMORE	06165	04700	00077		
.	04674			JP	\$-2	06166	61000	06164		
.	04675			ENT	B7*A	06167	12770	00000		
.	04676			NO-OP		06170	12000	00000		
.	04677			ENT	A*W(STATUS)*ANOT	06171	11530	06237		
.	04700			JP	\$-2	06172	61000	06170		
.	04701			SUB	A*1*AZERO	06173	21400	00001		
.	04702			JP	PSCRIBERR	06174	61000	06162		
.	04703			CL	W(STATUS)	06175	16030	06237		
.	04704			EX-FCT	PRINC*W(PSCRIBSSA)	06176	13170	06240		
.	04705			OUT	PRINC*W(PSCRIBSSB)	06177	74170	06241		
.	04706			ENT	A*87	06200	11007	00000		
.	04707			EXIT		06201	61010	06163		
.	04710		PSCRINT	ENTRY		06202	61000	00000		PRINT INTERRUPT ROUTINE
.	04711			STR	A*W(PSCRASTOR)	06203	15030	06220		
.	04712			STR	Q*W(PSCRQSTOR)	06204	14030	06221		
.	04713			STR	PRINC*W(STATSTOR)	06205	17170	06236		SAVE STATUS WORD
.	04714			ENT	Q*W(STATSTOR)	06206	10030	06236		
.	04715			CL	A*	06207	11000	00000		
.	04716			LSH	AQ*4	06210	07000	00004		TEST BOTTOM 4 BITS
.	04717			SUB	A*10*ANOT	06211	21500	00010		
.	04720			ENT	A*1*SKIP	06212	11100	00001		
.	04721			ENT	A*2	06213	11000	00002		OTHERWISE,ENTER ERROR CODE
.	04722			STR	A*W(STATUS)	06214	15030	06237		INTO STATUS WORD
.	04723			ENT	A*W(PSCRASTOR)	06215	11030	06220		
.	04724			ENT	Q*W(PSCRQSTOR)	06216	10030	06221		
.	04725			RILJP	L(PSCRINT)	06217	60110	06202		EXIT
.	04726		PSCRASTOR	0	0	06220	00000	00000		
.	04727		PSCRQSTOR	0	0	06221	00000	00000		
.	04730		PEXTINT	RJP	PSCRINT	06222	65000	06202		INSTR. FOR PRINT INTERRUPT
.	04731		PCOLUMN	0	I	06223	00000	00001		
.	04732		TWENTYSIXS	00033	00033	06224	00033	00033		
.	04733		BOTMARG	0	4	06225	00000	00004		
.	04734		TOPLINE	0	7	06226	00000	00007		
.	04735		BOTLINE	0	620	06227	00000	00076		
.	04736		LINCNT	0	I	06230	00000	00001		
.	04737		PRINTWO	12000	00001	06231	12000	00001		
.	04740		PSCRIBC	0	0	06232	00000	00000		
.	04741		PSCRIBO	U-TAG	PREGION+260*PREGION+I	06233	07240	07207		

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CAROS	L1 ID LABEL	TA STATEMENT	LOC	F JKR Y	NOTES
.	04742 PSCASTOR	0 0	06234	00000 00000	
.	04743 PSCQSTOR	0 0	06235	00000 00000	
.	04744 STATSTOR	0 0	06236	00000 00000	
.	04745 STATUS	0 1	06237	00000 00001	
.	04746 PSCRIBSSA	12770 00001	06240	12770 00001	
.	04747 PSCRIBSSB	U-TAG PSCRIBSSC*PSCRIBSSC	06241	06242 06242	
.	04750 PSCRIBSSC	77777	06242	77777 77777	
.	04751 PAGESIZE	EQUALS 660			
.	04752	COMMENT			
.	04753	COMMENT SUBROUTINE			
.	04754	COMMENT ENTRY			
.	04755	COMMENT OF			
.	04756 PENTRY	ENTRY	06243	61000 00000	
.	04757	RJP PSAVE	06244	65000 06563	
.	04760	ENT B7*L(PENTRY1	06245	12710 06243	
.	04761	ENT B7*L(87-21	06246	12717 77775	
.	04762	ENT A*W1871	06247	11037 00000	
.	04763	SEL SET*W(GETA00)	06250	50030 06264	
.	04764	STR A*W(PENTA+11	06251	15030 06261	
.	04765	ENT A*L(1+87)*AN0T	06252	11517 00001	
.	04766	JP PENTA	06253	61000 06260	
.	04767	STR A*W(\$+21	06254	15030 06256	
.	04770	RJP PCOLR	06255	65000 05670	
.	04771	0 0	06256	00000 00000	
.	04772	JP \$+2	06257	61000 05261	
.	04773 PENTA	RPL Y+1*L(PENTRY1	06260	36010 06243	
.	04774	0 0	06261	00000 00000	
.	04775	ENT B1*L(PCOLUMN)	06262	12110 06223	
.	04776	EXIT	06263	61010 06243	
.	04777 GETADO	ENT B6*0	06264	12600 00000	
.	05000 PLAYUP	ENTRY	06265	61000 00000	SAVE B-REGS
.	05001	STR B7*L(PLAYB8TOR1	06266	16710 06315	
.	05002	STR B6*L(PLAYB8TOR+11	06267	16610 06316	
.	05003	STR B5*L(PLAYB8TOR+21	06270	16510 06317	
.	05004	CLEAR 1300*LAYUPSTOR	06271	70100 00202	
.	05005	ENT B7*L(PLAYUP1	06272	16030 06322	
.	05006	ENT B6*U(87)	06273	12710 06265	
.	05007	ENT B7*L(871	06274	12627 00000	
.	05010	STR B6*L(PLAYUPA1	06275	12717 00000	
.	05011	ENT B6*0	06276	16610 06301	
.	05012	ENT B5*0	06277	12600 00000	
.	05013 PLAYUPA	ENT Q*W(0+86)	06300	12500 00000	
.	05014	A00 Q*0*QNOT	06301	10036 00000	BRING 1ST WORD
.	05015	JP PLAYUPB	06302	26500 00000	TEST FOR 0
.	05016	CL A*	06303	61000 06312	
.	05017	LSH AQ*6*ANOT	06304	11000 00000	
.	05020	JP PLAYUPA+1	06305	07500 00006	IF NOT GET NEXT MSD
.	05021	STR A*W(LAYUPSTOR+851	06306	61000 06302	
.	05022	BSK B5*LAYUPLMT	06310	15035 05322	STORE IN NEXT SLOT
.	05023	JP PLAYUPA+1	06311	71500 00202	
.			06311	61000 06302	

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FOR CONVERSION ROUTINES TO PER
FORM
PROCEDURES, SET COLUMN CTR AND
GET ADDRESS
ARGUMENT.

GET ADDRESS OF MAIN CALLER

SAVE B-REGS

GET ADDRESS OF 1ST WORD

BRING 1ST WORD
TEST FOR 0

IF NOT GET NEXT MSD
STORE IN NEXT SLOT

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PRINTOUT

CAROS	LI	IO	LABEL	TA STATEMENT	LOC	F	JKB	Y	NOTES
.	05024		PLAYUPB	BSK B6*B7-1	06312	71607	77776		
.	05025			JP PLAYUPA	06313	61000	06301		TILL ALL MOROS OONE
.	05026			STR B5*W(CHARNO)	06314	16530	06525		SAVE NUMBER OF CHARACTERS
.	05027		PLAYBSTOR	ENT B7*0	06315	12700	00000		RESTORE B-REGS
.	05030			ENT B6*0	06316	12600	00000		
.	05031			ENT B5*0	06317	12500	00000		
.	05032			RPL Y+1*L(PLAYUP)	06320	36010	06265		
.	05033			EXIT	06321	61010	06265		NORMAL EXIT
.	05034		LAYUPLMT	EQUALS 130D	06322	00000	00000		
.	05035		LAYUPSTOR	RESERVE 131D	06325	00000	00000		
.	05036		CHARNO	RESERVE 1	06326	61000	00000		
.	05037		PFRACSTOR	ENTRY	06327	11530	07170		IF BETA GRTR 3,
.	05040			ENT A*W(BETA)*ANOT	06330	61000	06560		
.	05041			JP PFRACB	06331	11000	00075		
.	05042			ENT A*75	06332	15011	07274		
.	05043			STR A*L(PBUF+81)	06333	71100	00201		
.	05044			BSK B1*1290	06334	61000	06536		
.	05045			JP \$+2	06335	61000	06555		
.	05046			JP PFRACERR	06336	12400	00000		
.	05047			ENT B4*0	06337	12500	00000		UNPACK FRACTION
.	05050			ENT B5*0	06340	10035	07200		
.	05051		PFRACA	ENT Q*W(10FRACTION+B5)	06341	11000	00000		
.	05052			CL A*	06342	07000	00006		
.	05053			LSH A*6	06343	15011	07274		
.	05054			STR A*L(PBUF+81)	06344	71100	00201		
.	05055			BSK B1*1290	06345	61000	06547		
.	05056			JP \$+2	06346	61000	06555		
.	05057			JP PFRACERR	06347	37530	07170		STORE BETA DIGITS (K)
.	05060			RPL Y-1*W(BETA)*ANOT	06350	61000	06560		WHEN DONE, EXIT
.	05061			JP PFRACB	06351	71400	00004		
.	05062			BSK B4*4	06352	61000	06541		
.	05063			JP PFRACA+1	06353	71500	00001		
.	05064			BSK B5*1	06354	61000	06540		
.	05065			JP PFRACA	06355	11030	06562		
.	05066		PFRACERR	ENT A*W(PFRACERR1)	06356	65000	06613		
.	05067			RJP PERRORR	06357	61010	06526		
.	05070			EXIT	06360	36010	06526		TO SAVE AND RESTORE ALL REGIST
.	05071		PFRACB	RPL Y+1*L(PFRACSTOR1)	06361	61010	06526		ERS
.	05072			EXIT	06362	00001	06526		
.	05073		PFRACERR1	00001 PFRACSTOR					
.	05074			COMMENT ROUTINES					
.	05075		PSAVE	ENTRY	06563	61000	00000		
.	05076			STR A*W(PASTOR1)	06564	15030	06611		
.	05077			STR Q*W(PQSTOR)	06565	14030	06612		
.	05100			STR B1*L(PRESTORE+1)	06566	16110	06577		
.	05101			STR B2*L(PRESTORE+2)	06567	16210	06600		
.	05102			STR B3*L(PRESTORE+3)	06570	16310	06601		
.	05103			STR B4*L(PRESTORE+4)	06571	16410	06602		
.	05104			STR B5*L(PRESTORE+5)	06572	16510	06603		
.	05105			STR B6*L(PRESTORE+6)	06573	16610	06604		
.	05106			STR B7*L(PRESTORE+7)	06574	16710	06605		
.	05107			EXIT	06575	61010	06563		

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J00*1/22/65

PRINTOUT

CAROS	L1	IO	LABEL	TA	STATEMENT	LOC	F	JKB	Y	NOTES
.	05110		PRESTORE		ENTRY	06576	61000	00000		
.	05111				ENT B1*0	06577	12100	00000		
.	05112				ENT R2*0	06600	12200	00000		
.	05113				ENT B3*0	06601	12300	00000		
.	05114				ENT B4*0	06602	12400	00000		
.	05115				ENT B5*0	06603	12500	00000		
.	05116				ENT B6*0	06604	12600	00000		
.	05117				ENT B7*0	06605	12700	00000		
.	05120				ENT A*W(PASTOR1	06606	11030	06611		
.	05121				ENT Q*W(PQSTOR)	06607	10030	06612		
.	05122		PASTOR		EXIT	06610	61010	06576		
.	05123				O O	06611	00000	00000		
.	05124		PQSTOR		O O	06612	00000	00000		
.	05125				COMMENT ROUTINE					IO PRINT AND TYPE ERROR
.	05126				COMMENT CODE					AND LOCATION
.	05127				COMMENT					
.	05130		PERRORR		ENTRY	06613	61000	00000		
.	05131				STR A*L(PERRORR2)	06614	15010	06623		LOC
.	05132				RSH A*150	06615	02000	00017		
.	05133				SEL SET*6060	06616	50000	06060		
.	05134				STR A*W(PERRORR1)	06617	15030	06654		
.	05135				RJP PIMAGE	06620	65000	05747		DEFINE NEW BUFFER
.	05136				O PERRORR4	06621	00000	06651		
.	05137				NO-OP	06622	12000	00000		
.	05140		PERRORR2		ENT Q*L(00)	06623	10010	00000		GET LOC OF CALLER
.	05141				CL A*	06624	11000	00000		
.	05142				LSH Q*150	06625	05000	00017		
.	05143				LSH A*3	06626	06000	00003		
.	05144				LSH AQ*3	06627	07000	00003		
.	05145				A00 Q*0*QZERO	06630	26400	00000		
.	05146				JP \$-3	06631	61000	06626		
.	05147				SEL SET*W(SIXTIES1	06632	50030	07166		
.	05150				STR A*W(PERRORR15)	06633	15030	06660		
.	05151				RJP PSCRIB	06634	65000	06057		PRINT
.	05152				1 O	06635	00001	00000		
.	05153				NO-OP	06636	12000	00000		
.	05154				RJP PLAYUP	06637	65000	06265		SPREAD OUT MESSAGE
.	05155				U-TAG PERRORR4*80	06640	06651	00010		
.	05156				ENT A*0403	06641	11000	00403		A00 CR AND LF
.	05157				STR A*W(LAYUPSTOR+4001	06642	15030	06372		
.	05160				NO-OP	06643	12000	00000		
.	05161				JP \$-1*KEYOUT*ACTIVEOUT	06644	63100	06643		
.	05162				OUT KEYOUT*W(PERRORR91	06645	74130	06663		
.	05163				NO-OP	06646	12000	00000		
.	05164				JP \$-1*KEYOUT*ACTIVEOUT	06647	63100	06646		
.	05165				EXIT	06650	61010	06613		
.	05166		PERRORR4		F0 3*ERROR TYPE	06651	12272	72427		
.						06652	05313	62512		
.						06653	05050	50505		
.	05167		PERRORR1		O O	06654	00000	00000		
.	05170				F0 3* AT LOCATION	06655	05050	53105		
.						06656	21241	00631		
.						06657	16242	30505		

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PRINTOUT

CAROS	L1 ID	LABEL	TA STATEMENT	LOC	F	JK8	Y	NOTES
•	05171	PERROR15	O 0	06660	00000	00000		
•	05172	PERROR16	77777 00000	06661	77777	00000		
•	05173	PERROR17	U-TAG	06662	06703	06651		
•	05174	PERROR18	U-TAG	06663	06366	06322		EXIT ENTRY
•	05175	BINOECINT	JP 0	06664	61000	00000		SAVE B REGISTERS
•	05176	BINOECINT	STR B1*U(BINOECINT)31	06665	16120	06714		
•	05177	BINOECINT	STR B2*L(BINOECINT)31	06666	16210	06714		
•	05200	BINOECINT	STR B7*L(BINOECINT)41	06667	16710	06712		INITIALIZE B REGS FOR COUNT
•	05201	BINOECINT	CL B2	06670	12200	00000		
•	05202	BINOECINT	ENT B1*1	06671	12100	00001		STORE 1 1811 IN SIGN AS NEG SI
•	05203	BINOECINT	STR B1*WISIGN41	06672	16130	07173		GN
•	05204	BINOECINT	ENT Q*W1INTEGER1*QNEG	06673	10330	07171		TEST IF NUMBER10 BE CONVI IS
•	05205	BINOECINT	RPL Y-1*WISIGN1*SKIP	06674	37130	07173		NEG
•	05206	BINOECINT	CP Q	06675	14000	00000		POS RESET SIGN TO ZERO-GO TO W
•	05207	BINOECINT	CL W110INTEGER+811	06676	16031	07176		AIN
•	05210	BINOECINT	CL A	06677	11000	00000		NEG LEAVE SIGN-COMPLEMENT NUMB
•	05211	BINOECINT	DIV 12	06700	23000	00012		ER
•	05212	BINOECINT	A00 A*60	06701	20000	00060		MAIN LOOP-INITIALLY CLEAR OUTP
•	05213	BINOECINT	RPT B2	06702	70002	00000		UT
•	05214	BINOECINT	LSH A*6	06703	06000	00005		CLEAR A FOR OIVIOE
•	05215	BINOECINT	RSE SET*W(10INTEGER+811	06704	54031	07176		NEG DEC DIGIT REMAINS IN A
•	05216	BINOECINT	BSK B2*4	06705	71200	00004		INCORPORATE FLDATA BITS
•	05217	BINOECINT	JP BINOECINT2	06706	61000	06677		VARIABLE SHIFT TO INCORP FLOAT
•	05220	BINOECINT	BJP B1*BINOECINT1	06707	72100	06676		A
•	05221	BINOECINT	ENT B1*U(BINOECINT)31	06710	12120	06714		DIGIT IN RT. JUSTIFIED OUTPUT
•	05222	BINOECINT	ENT B2*L(BINOECINT)31	06711	12210	06714		ADD IN NEW 6-BIT CODE
•	05223	BINOECINT	ENT B7*0	06712	12700	00000		OUTPUT WORD FILLED YET (5 CODE
•	05224	BINOECINT	JP BINOECINT	06713	61000	06664		SI
•	05225	BINOECINT	O 0	06714	00000	00000		NO-GET ANOTHER CODE
•	05226	BINOECINT	JP 0	06715	61000	00000		YES-OUTPUT COMPLETED-IF NO DO
•	05227	BINOECINT	STR B7*L(BINOECINT)31	06716	16710	06731		NEXT
•	05230	BINOECINT	CL B7	06717	12700	00000		YES-RESTORE B REGS
•	05231	BINOECINT	ENT Q*W1INTEGER1	06720	10030	07171		AND EXIT
•	05232	BINOECINT	CL A	06721	11000	00000		SAVE B REGISTERS HERE
•	05233	BINOECINT	LSH A*3	06722	06000	00003		ENTRY EXIT
•	05234	BINOECINT	LSH A*3	06723	07000	00003		CLEAR B7 FOR COUNT
•	05235	BINOECINT	A00 A*60*ANEG	06724	20700	03060		ENTER INPJT WORD
•	05236	BINOECINT	JP BINOECINT2	06725	61000	05722		MAIN LOOP SET WORD INITIALLY T
•	05237	BINOECINT	STR A*W110INTEGER+871	06726	15037	07176		O ZER
•	05240	BINOECINT	BSK B7*1	06727	71700	00001		ALLOW ROOM FOR FLDATA BITS

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PRINTOUT

CAROS	LI	ID	LABEL	TA	STATEMENT	LOC	F	JKS	Y	NOTES
.	C5241			JP	BINOCTFLO1	06730	61000	05721		NO- MAKE 2ND WORD
.	05242		BINOCTFLO3	ENT	B7*0	06731	12700	00000		
.	05243			JP	BINOCTFLO	06732	61000	06715		AND EXIT
.	05244		BINDECFA	ENTRY		06733	61000	00000		
.	05245			CL	B7	06734	12700	00000		SET BREG
.	05246			ENT	Q*1	06735	10000	00001		FIND IF NO IS + OR -,
.	05247			ENT	A*W(FRACTION)*APOS	06736	11530	07172		SET SIGN APPROPRIATELY
.	05250			STR	A*ANOT	06737	15540	00000		AND SET NUMBER POSITIVE
.	05251			ENT	Q*0	06740	10000	00000		
.	05252			STR	Q*W(SIGN)	06741	14030	07173		
.	05253			RSH	AQ*290	06742	03000	00035		INITIALIZE
.	05254		BINDECFA1	ENT	A*0	06743	11000	00000		SET OUTPUT WORD TO ZERO
.	05255		BINDECFA2	LSH	A*6	06744	06000	00006		RESET OUTPUT WORD FOR NEXT CDD
.	05256			STR	A*W(10FRACTION)+B71	06745	15037	07200		E
.	05257			RSH	AQ*1	06746	03000	00001		AND STORE
.	05260			MUL	24	06747	22000	00024		SET Q FOR MUL OPERATION
.	05261			SEL	SET*60	06750	50000	00060		PRODUCT AT B2?
.	05262			RSE	SET*W(10FRACTION)+B71*ANEG	06751	54737	07200		INSERT FIELDATA BITS
.	05263			JP	BINDECFA2	06752	61000	06744		INSERT NEW CODE, WORD FILLED
.	05264			BSK	B7*1	06753	71700	00001		NO-KEEP FILLING SAME WORD
.	05265			JP	BINDECFA1	06754	61000	06743		YES-ARE BOTH WORDS FILLED
.	05266			EXIT		06755	61010	06733		NO-DO SECOND WORD
.	05267		COFFIX	ENTRY		06756	61000	00000		
.	05270			STR	B7*L(COFFXSTOR)	06757	16710	07012		
.	05271			STR	B2*L(COFFTEM1)	06760	16210	07010		
.	05272			STR	B3*L(COFFTEM2)	06761	16310	07011		
.	05273			CL	W(FXCODE1)	06762	16030	07165		INITIALIZATION
.	05274			CL	W(SIGN)	06763	16030	07173		
.	05275			ENT	B2*L(COFFIX)	06764	12210	05756		B2 CONTAINS LOC OF ARG + 3AMMA
.	05276			ENT	B3*U(B2)	06765	12322	00000		
.	05277			ENT	A*W(B31*ANEG	06766	11733	00000		ARGUMENT UNTO A TEST + OR -
.	05300			JP	COFF1	06767	61000	06772		+ CONTINUE
.	05301			STR	A*W(FXCODE1	06770	15030	07165		
.	05302			CP	A*	06771	15040	00000		-
.	05303		COFF1	CL	Q*	06772	10000	00000		
.	05304			ENT	B2*L(B2)	06773	12212	00000		
.	05305			RSH	AQ*82	06774	03002	00000		
.	05306			STR	A*W(INTEGER)	06775	15030	07171		
.	05307			LSH	Q*290	06776	05000	00035		
.	05310			STR	Q*W(FRACTION)	06777	14030	07172		
.	05311			RJP	BINDECINT	07000	65000	06664		CONVERT BIN INT TO FLOTA
.	05312			RJP	BINDECFA	07001	65000	05733		CONVERT BIN FRAC TO FLOTA
.	05313			RJP	COFRND	07002	65000	07053		
.	05314			RJP	SUP2RO	07003	65000	07014		
.	05315			U-TAG	10INTEGER*2	07004	07176	00002		
.	05316			ENT	A*W(FXCODE1)*AZERO	07005	11430	07165		
.	05317			STR	A*W(SIGN)	07006	15030	07173		
.	05320			RPL	Y*1*L(COFFIX)	07007	36010	06756		
.	05321		COFFTEM1	ENT	B2*0	07010	12200	00000		
.	05322		COFFTEM2	ENT	B3*0	07011	12300	00000		
.	05323		COFFXSTOR	ENT	B7*0	07012	12700	00000		

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PRINTOUT

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CARDS	L1 IO LABEL	TA STATEMENT	LOC	F	JKB	Y	NOTES
•	05324	EXIT	07013	61010	06756		
•	05325	ENTRY	07014	61000	00000		
•	05326	STR B6*L(SUPBSTR01)	07015	16610	07050		
•	05327	STR B7*L(SUPBSTR01)	07016	16710	07051		
•	05330	ENT B7*L(SUPZRO)	07017	12710	07014		
•	05331	RPL Y+I*L(SUPZRO)	07020	36010	07014		NO OF WROS
•	05332	ENT B6*L(B71)	07021	12617	00000		
•	05333	STR B6*L(SUPZRO31)	07022	16610	07036		
•	05334	ENT B6*1	07023	12600	00001		
•	05335	ENT B7*U(B71)	07024	12727	00000		ADDRESS
•	05336	SUPZRO1	07025	10037	00000		BRING NEXT (1ST) WORO
•	05337	SUPZRO2	07026	11000	00000		
•	05340	LSH AQ*6	07027	07000	00006		MOVE 1 DIGIT INTO A
•	05341	COM A*61*YMORE	07030	04700	00061		TEST FOR EQUAL TO 60
•	05342	JP SUPZRO4	07031	61000	07043		IF NOT, JUMP TO CLEAN-UP
•	05343	ADD Q*0*QZERO	07032	26400	00000		IF 50, TEST FOR WORO EXHAUSTED
•	05344	JP SUPZRO2	07033	61000	07026		IF MORE DIGITS, RETURN TO TEST
•	05345	CL W(B71)	07034	16037	00000		
•	05346	ENT B7*1+B7	07035	12707	00001		IF NOT, RUMP ADDRESS OF WORO
•	05347	BSK B6*NIL	07036	71600	00000		TEST FOR ALL WROS DONE
•	05350	JP SUPZRO1	07037	61000	07025		RETURN FOR NEXT WORO
•	05351	ENT A*60	07040	11000	00060		IF WROS ALL ZERO, PRINT 1
•	05352	ENT B7*B7-1	07041	12707	77776		
•	05353	JP SUPZRO5	07042	61000	07047		
•	05354	ADD Q*0*QNOT	07043	26500	00000		WHEN FINO NON-ZERO
•	05355	JP SUPZRO5	07044	61000	07047		
•	05356	LSH AQ*6	07045	07000	00006		MOVE REST OF WORO TO A
•	05357	JP SUPZRO4	07046	61000	07043		
•	05360	SUPZRO5	07047	15037	00000		STORE BACK IN PROPER SLOT
•	05361	STR A*W(B71)	07050	12600	00000		
•	05362	ENT B6*NIL	07051	12700	00000		
•	05363	ENT B7*0	07052	61010	07014		
•	05364	EXIT	07053	61000	00000		
•	05366	ENTRY	07054	11000	00011		
•	05365	ENT A*90	07055	21030	07170		PUT 9-BETA IN B7
•	05366	SUB A*W(BETA)	07056	12770	00000		BRING FLOATA FRACTION TO A2
•	05367	ENT B7*A	07057	10030	07201		
•	05370	ENT Q*W(10FRACTION+1)	07060	11030	07200		
•	05371	ENT A*W(10FRACTION)	07061	16030	07200		
•	05372	CL W(10FRACTION+1)	07062	16030	07201		
•	05373	CL W(10FRACTION)	07063	52030	07157		
•	05374	SEL CL*W(H181T)	07064	72700	07066		SUBTRACT 1 FROM B7
•	05375	BJP B7*COFRND2	07065	61000	07070		WHEN B7 IS 0, STOP SHIFTING
•	05376	JP COFRND3	07066	03000	00006		SHIFT OFF 1 DIGIT
•	05377	RSH AQ*6	07067	61000	07064		RETURN TO TEST B7
•	05400	JP COFRND1	07070	07000	00066		PUT BETA+1TH DIGIT IN AI-6
•	05401	LSH AQ*540	07071	04730	07161		
•	05402	COM A*W(SIXTYFIVE)*YMORE	07072	61000	07102		IF MORE THAN 4, GO TO ADD 1
•	05403	JP COFRND5	07073	52030	07162		IF LESS THAN 5, CLEAR IT
•	05404	SEL CL*W(M61)	07074	07700	00001		LEFT JUSTIFY FRACTION
•	05405	LSH AQ*1*ANEG	07075	61000	07074		
•	05406	JP COFRND4					

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CAROS	LI	IO	LABEL	TA	STATEMENT	LOC	F	JKB	Y	NOTES
.	05407			RSH	AQ*1	07076	03000	00001		PUT HIGH ORDER BIT BACK ON
.	05410		COFRN041	STR	A*(IOFRACTION)	07077	15030	07200		STORE AWAY
.	05411			STR	Q*(IOFRACTION+11	07100	14030	07201		
.	05412			JP	COFRND81	07101	61003	07141		IF MUST ADD 1, CLEAR EXTRA DIGIT
.	05413		COFRN05	SEL	CL*(M&L1	07102	52030	07162		IT
.	05414			LSH	AQ*540	07103	07000	00066		SHIFT LOW-ORDER DIGIT TO TOP 0
.	05415			COM	A*(SEVENTYONE)*YMORE	07104	04730	07163		F A
.	05416			JP	COFRN051*ANOT	07105	60500	07112		TEST EQUAL TO 71
.	05417			JP	COFRN06*AZERO	07106	60400	07122		IF SO, RETURN TO TEST NEXT DIGIT
.	05420			A00	A*(BIT51	07107	20030	07164		IF NOT, TEST FOR FRACTION ALL 0
.	05421			LSH	AQ*6	07110	07000	00006		IF NOT, ADD 1 TO DIGIT
.	05422			JP	COFRN04	07111	61000	07074		RIGHT JUSTIFY FRACTION
.	05423		COFRN051	JP	COFRN05*ANEG	07112	60700	07102		OIGIT MAY HAVE HAO HIBIT
.	05424			SEL	SET*(HIBIT)	07113	50030	07157		CLEARED, SO RESTORE AND
.	05425			COM	A*(SEVENTYONE)*YMORE	07114	04730	07163		
.	05426			JP	COFRN05	07115	61000	07102		
.	05427			A00	A*(BIT5)	07116	20030	07164		
.	05430		COFRND52	LSH	AQ*6*ANEG	07117	07700	00006		
.	05431			JP	COFRN052	07120	61000	07117		
.	05432			JP	COFRN041	07121	61000	07077		
.	05433		COFRN06	ENT	Q*(IOINTEGER+1)	07122	10030	07177		
.	05434			ENT	A*(IOINTEGER)	07123	11030	07176		
.	05435			JP	COFRN07+1	07124	61000	07126		
.	05436		COFRN07	SEL	CL*(M&L1	07125	52030	07162		
.	05437			LSH	AQ*540	07126	07000	00066		
.	05440			COM	A*(SEVENTYONE)*YMORE	07127	04730	07163		
.	05441			JP	COFRN07	07130	61000	07125		
.	05442			A00	A*(BIT5)	07131	20030	07164		
.	05443		COFRN08	LSH	AQ*6*ANEG	07132	07700	00006		
.	05444			JP	COFRN08	07133	61000	07132		
.	05445			SEL	SET*(SIXTIES)	07134	50030	07166		
.	05446			STR	A*(IOINTEGER)	07135	15030	07176		
.	05447			STR	Q*A	07136	14040	00000		
.	05450			SEL	SET*(SIXTIES)	07137	50030	07166		
.	05451			STR	A*(IOINTEGER+1)	07140	15030	07177		
.	05452		COFRN081	ENT	B*(BETA)	07141	12730	07170		
.	05453			BJP	B*(COFRN09	07142	72700	07144		
.	05454			JP	COFRN011	07143	61000	07153		
.	05455		COFRN09	ENT	A*(SIXTY)	07144	11030	07160		
.	05456			CL	Q*	07145	10000	00000		
.	05457			BJP	B*(COFRN010	07146	72700	07150		
.	05460			JP	COFRN011	07147	61000	07153		
.	05461		COFRN010	LSH	AQ*540	07150	07000	00066		
.	05462			SEL	SET*(SIXTY)	07151	50030	07160		
.	05463			BJP	B*(COFRN010	07152	72700	07150		
.	05464		COFRN011	RSE	SET*(IOFRACTION)	07153	54030	07200		
.	05465			STR	Q*A	07154	14040	00000		
.	05466			RSE	SET*(IOFRACTION+1)	07155	54030	07201		
.	05467			EXIT		07156	61010	07053		

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..... SPURT OUTPUT NO. 210 .....
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..... PRINTOUT .....

CARDS  L1 IO LABEL      TA STATEMENT      LOC  F  JKB Y  NOTES
*      C5470 HIBIT      40000      0      07157 40000 00000
*      05471 SIXTY      60000      0      07160 60000 00000
*      05472 SIXTYFIVE  65000      0      07161 65000 00000
*      C5473 M6L        77000      0      07162 77000 00000
*      05474 SEVENTYONE 71000      0      07163 71000 00000
*      05475 BIT5       01000      0      07164 01000 00000
*      05476 FXCOOE      0      0      07165 00000 00000
*      C5477 SIXTIES    60606      0      07166 60505 06060
*      05500 GAMMA      RESERVE 1      07167 00000 00000
*      05501 BETA       RESERVE 1      07170 00000 00000
*      05502 INTEGER    RESERVE 1      07171 00000 00000
*      C5503 FRACTION   0      0      07172 00000 00000
*      05504 SIGN       RESERVE 1      07173 00000 00000
*      05505 EXPONENT   RESERVE 1      07174 00000 00000
*      05506 FPFRACTION RESERVE 1      07175 00000 00000
*      C5507 IOINTEGER  RESERVE 2      07176 00000 00000
*      05510 IOFRACTION RESERVE 2      07200 00000 00000
*      05511 IOEXPONENT RESERVE 1      07202 00000 00000
*      05512 EXPSIGN    RESERVE 1      07203 00000 00000
*      C5513 UNPACKBUFF 0      0      07204 00000 07275
*      05514 PACKBUFF   U-TAG  PREGION+1*PREGION+270
*      05515 PREGION    00 00      07205 07207 07241
*      05516            RESERVE 260      07206 00000 00000
*      C5517            00 00      07207 00000 00000
*      05520            RESERVE 260      07241 00000 00000
*      05521 PBUF       RESERVE 1290      07242 00000 00000
*      05522            RESERVE 1      07274 00000 00000
*                                     07475 00000 00000
*                                     07476 12300 00004
*                                     07477 30100 00004
*      07500 00002 50600
*      07501 12300 00010
*      07502 60000 00000
*      07503 77760 00000
*      07504 00026 70660
*      07505 40000 00000
*      07506 52000 00004
*      07507 20300 00004
*      07510 12200 00010
*      07511 20300 00010
*      07512 00300 00010
*      07513 02300 00010
*      07514 21100 00010

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END OF LISTING

..... PRINTOUT SPURT OUTPUT NO. 211 J00*1/22/65

LABEL	LOC	LABEL	LOC	LABEL	LOC	LABEL	LOC
A\$\$\$\$1111	07476	A\$\$\$\$1112	07477	A\$\$\$\$1113	07500	A\$\$\$\$1113	07500
A\$\$\$\$1114	07501	A\$\$\$\$1115	00453	A\$\$\$\$1116	00457	A\$\$\$\$1116	00457
A\$\$\$\$1117	00463	A\$\$\$\$1118	07502	A\$\$\$\$1119	07503	A\$\$\$\$1119	07503
A\$\$\$\$111A	07504	A\$\$\$\$111B	01430	A\$\$\$\$111C	01537	A\$\$\$\$111C	01537
A\$\$\$\$111G	01565	A\$\$\$\$111E	07505	A\$\$\$\$111F	07506	A\$\$\$\$111F	07506
A\$\$\$\$111H	07507	A\$\$\$\$111H	07510	A\$\$\$\$111I	07511	A\$\$\$\$111I	07511
A\$\$\$\$111J	07512	A\$\$\$\$111K	07513	A\$\$\$\$111L	07514	A\$\$\$\$111L	07514
ACQAZIM	63071	ACQEV	63075	ACQJ	63427	ACQJ	63427
ACTUALTIME	63142	AOJUSTBUFR	01561	AOSCN	63416	AOSCN	63416
AOVANB1	01374	AEOXINES	63507	AESCN	63417	AESCN	63417
ALNGOFFSET	63517	ALNGACRSCN	63506	ANNTITLE	34416	ANNTITLE	34416
ANSOUTPUT	03412	ANSENOTM	04517	ANSSTTM	34502	ANSSTTM	34502
ARCOFAZIM	63524	ARCOFOEC	63526	ARCOFELEV	63522	ARCOFELEV	63522
ARCOFRA	63530	ARND	00646	ARNOHEAO	31525	ARNOHEAO	31525
ARNOHENRY	01536	ASKHR	02030	ASKMIN	32042	ASKMIN	32042
ASKSEC	02051	ASKTIMES	00101	ASTARX	04541	ASTARX	04541
ASTRODEC	63106	ASTRORA	63105	ATAN	05257	ATAN	05257
AUPEREQUAT	63341	AWAYWEGO	00222	AZOUTEQ	72000	AZOUTEQ	72000
AZOUTSM	02234	AZOIFS	63120	AZELOTIME	63532	AZELOTIME	63532
AZELBXSCAN	63500	AZIM	63053	AZIMOFFSET	63512	AZIMOFFSET	63512
AZIMOUT	64000	AZIMOVER	63325	AZIMAOO	63442	AZIMAOO	63442
AZIMIN	75000	AZINEQ	75000	AZINSH	02230	AZINSH	02230
AZMTHSCAN	63501	BOOYSIZE	63462	BOTLINE	36227	BOTLINE	36227
BOTMARG	06225	BACK	03115	BACKWOS	30322	BACKWOS	30322
BACKWOSA	00325	BAOMCH	03767	BAONEWS	03260	BAONEWS	03260
BASICCOLC	01764	BASICCOLRA	01715	BASICLOOP	00236	BASICLOOP	00236
BCOOUTPUT	03371	BCOANS	03406	BCOBLOCK	03506	BCOBLOCK	03506
BCOQUES	03372	BEHEAEO	04460	BETA	07170	BETA	07170
BIGT	02360	BINOCTFLO	06715	BINOCTFLO1	06721	BINOCTFLO1	06721
BINOCTFLO2	06722	BINOCTFLO3	06731	BINOECFRA	06733	BINOECFRA	06733
BINOECFRA1	06743	BINOECFRA2	06744	BINOECINT	06664	BINOECINT	06664
BINOECINT1	06676	BINOECINT2	06677	BINOECINT3	06714	BINOECINT3	06714
BINOECINT4	06712	BIT5	07164	BLASTOFF	63146	BLASTOFF	63146
BRANDNEW	02025	BRNO	00760	BUFFERPRNT	02725	BUFFERPRNT	02725
COCON	63414	COFF1	06772	COFFIX	06756	COFFIX	06756
COFFTEM1	07010	COFFTEM2	07011	COFRNO	07053	COFRNO	07053
COFRNO1	07064	COFRNO10	07150	COFRNO11	07153	COFRNO11	07153
COFRNO2	07066	COFRNO3	07070	COFRNO4	07074	COFRNO4	07074
COFRNO41	07077	COFRNO5	07102	COFRNO51	07112	COFRNO51	07112
COFRNO52	07117	COFRNO6	07122	COFRNO7	07125	COFRNO7	07125
COFRNO8	07132	COFRNO81	07141	COFRNO9	07144	COFRNO9	07144
COFXSTOR	07012	COMMA	02201	COMPAREET	04521	COMPAREET	04521
COMPAREST	04520	COSORIENT	63135	CORCT	63420	CORCT	63420
COS	05140	COSORIENT	63065	COSAZEL	63070	COSAZEL	63070
COUNT	04103	COUNTER	02664	C15EXTINT	03106	C15EXTINT	03106
CARRION	00272	CARRIAGEC	03540	CAZIM	63060	CAZIM	63060
CELBOOY	63113	CELCOMP6M	63424	CELEV	63061	CELEV	63061
CELTIME	63133	CHOICEQUES	00431	CHANNEL	04011	CHANNEL	04011
CHARNO	06525	CHCOR	63422	CHKCENTM	00136	CHKCENTM	00136
CHECKMIN	00553	CHGAOR	02714	CHKOVLP	01632	CHKOVLP	01632
CHPAR	63431	CNTRPT	01376	CRANGE	63057	CRANGE	63057

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LABEL	LOC	LABEL	LOC	LABEL	LOC
CRSROFFSET	63516	CSKEY	04533	ORPOUTEQ	74000
ORPOUTSW	02240	ORPPOUT	66000	ORPPA00	63444
OOUBLESF	03744	D2483	04332	0360820	02064
036083	04272	06081	04333	DAMIC	01411
QATA	63000	DATA2	71000	DATANALYZE	63425
QATASWITCH	02226	DAY	63150	OAYNO	02200
OAYS	02161	OOCOL	01733	OEC	63003
OECCOFFSET	63515	OECOUT	05065	OECDOOT	63010
OECOC	04273	OECINOMS	04240	OECCLNSCAN	63505
OECMIN	04274	DECPPOINT	04300	DECPUS	01743
DECEC	04275	DECECXX	04276	OECIGN	04271
OELTAO	06000	OELTATEE	63316	DELTIME	02216
OELTIONARY	04104	OMEHRS	04526	OMEHNS	04527
OMESECS	04530	DMESECTTG	04532	DMINCOL	01745
OMSHRS	04523	OMSMINS	04524	DMSSECS	04525
OMSECTTG	04531	DPTCDL	01761	DSECONOS	63141
DSECCOL	01751	DSSXXCOL	01755	OUMMY	03320
OUMSECTTG	63154	OYDMP	63421	E	02202
EOFNEWS	03343	EOTNEWS	03330	ELOUTEQ	73000
ELOUTSW	02236	ELDIFS	63121	ELEV	63054
ELEVOFFSET	63513	ELEVOUT	65000	ELEVADO	63443
ELEVIN	76000	ELINEQ	76000	ELNSW	02232
ELVOTNSCAN	63502	ENOOF TAPM	03353	ENOTAPE	04001
ENOTAPEM	03362	ENOTAPEU	04237	EQUATOR	63223
ESTSHIFTED	63143	ETANS	04512	ETQUES	04503
EVERY	02006	EXCESS60	03322	EXPONENT	07174
EXPNAME	63350	EXP SIGN	07203	FORAZDUT	01266
FORAZIM	00667	FORAZIN	01232	FORDOP	02214
FOROOPDUT	01350	FORELUT	01307	FORELEV	00700
FORELIN	01253	FORRDP	01766	FORROPE	01767
FOSATCOOE	03176	FOTAPEPAR	03240	FILEONE	00023
FILLBLNK	02004	FILLCHAR	00575	FILLNEG	02005
FINALIZER	00410	FIRSTELEV	63104	FIRSTTHRU	63153
FLATTENING	63337	FMEOF3	00424	FJUMPBACK	00415
FNLOOP	00364	FPFRACTION	07175	FRACTION	07172
FRAMESIZE	63101	FREQUENCY	63317	FRPERPAGE	00007
FX	02217	FXCODE	07165	GOTHRU	00366
GAMMA	07167	GECCENLAT	63322	GEODETLAT	63321
GETOUT	01554	GETADO	06264	GETCHAR	04227
GETPACK	02645	GMTMODU24	63145	GMTSHIFTED	63144
HOLONHOLD	63511	HOURMINUTE	63137	HDURREG	63151
HOURS	02211	HOWMANY	02067	HEAO	02070
HEAOKEY	02126	HEIGHT	63326	HERE	03757
HHCOL	01664	HIBIT	07157	HSPOUTPUT	03370
IOEXPONENT	07202	IOFRACTION	07200	IOINTEGER	07176
IO10RA010	66777	IO11RA010	67776	IO12RA010	67777
IO13RA010	70775	IO14RA010	70776	IO15RA010	71776
IO16RA010	71777	IO17RA010	72776	IO18RA010	72777
IO19RA010	73776	IO1CELCO	63000	IO1ENTPNT	63410
IO1RA0COR	63050	IO1RA010	63440	IO1RECRO	63210
IO1SYSENT	77576	IO1SYSNAM	77676	IO1SYSPAR	63310

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LABEL	LOC	LABEL	LOC	LABEL	LOC	LABEL	LOC
I01TIME	63130	I023RA010	73777	I021RA010	74776		
I022RA010	74777	I023RA010	75776	I024RA010	75777		
I025RA010	76775	I026RA010	76776	I02CELCOR	63001		
I02ENTPNT	63411	I02RAOCOR	63051	I02RA010	63441		
I02RECRO	63211	I02SYSENT	77577	I02SYSNAM	77677		
I02SYSPAR	63311	I02TIME	63131	I03RA010	63776		
I04RA010	63777	I05RA010	64776	I06RA010	64777		
I07RA010	65776	I08RA010	65777	I09RA010	66776		
INAZIMAO0	63446	I08RA010	65777	INELEVA00	63447		
INPUTAPENO	03324	INBUFFER	03101	INSERTA	02066		
INSERTX	02622	INSERT	00046	INTER	63413		
INTERAZIM	72000	INTEGER	07171	INTEROOPP	74000		
INTERLEV	73000	INTERCOM	63426	INTERLOCK	03116		
INTERLOCKP	03123	INTERJUMP	03114	INTERLCKSW	63460		
INTERRANGE	76777	INTERLCK	04006	INTJUMP	33766		
IRSWITCH	02222	INTERRUPT	03761	ISERA011	00637		
ISIO	01403	ISAU	00624	JPIINTERUP	03760		
JPPRINTOVR	02723	JPC15EXT	03200	KOCTTOFO	03304		
KOVRLAP	01641	JUMPBACK	00426	KMPERNM	63342		
KP1	03464	KEEPON	02023	KP3	33466		
KP4	03467	KP2	03465	KP6	33471		
KP7	03472	KP5	03470	KPQ	33463		
KYBROLEVEL	63110	KPA	03462	LOOP2	04226		
LOOPLIMIT	02653	LOOP1	02646	LOOPSTART	32844		
LOOPSTART2	04224	LOOPLIMIT2	04233	LOCKP	03131		
LONGITUOE	63320	LOOPX	01223	LABEL8	04367		
LA100UT	03541	LABELA	04341	LAYUPLMT	00292		
LAYUPSTOR	06322	LAUNCHEO	00234	LINCNT	06230		
LSPERAU	63336	LETSGO	00164	MORELOOK	01545		
MORESTUFF	01154	MONTH	02127	M6L	07162		
MACHERR	03266	MOVER	01427	MAINSWITCH	63334		
MAXETIME	04522	MACHFAULT	03157	MCPGM	63412		
MILLSTNA00	63451	MCPFILLER	71000	MINS	02212		
MMCOL	01676	MINREG	63152	MSWITCH	02221		
MUTE	04426	MSREQ	63332	MYHEAO	02242		
NOGOTHRU	00451	MYOUT	02406	NOREW	00030		
NOTOPPAGE	00270	NOPTS	02215	NOTINSIM	00276		
NOTZERO	01551	NOTIO	00452	NOWOOTIME	00524		
NOWOEC	00611	NOWANS	00443	NOWRAHH	00745		
NOWWHAT	00447	NOWQUES	00427	NEWTAPE	04033		
NEWTITLE	00100	NEGIGN	04277	NMPERAU	63340		
NWSRCHTP	00200	NIL	00000	POCTA	05455		
POCTB	05465	POCT	05440	POCTERR1	05475		
POOEC	01716	POCTERR	05471	PORA	01647		
PORUN	00002	POLE	63324	PACK	04204		
PACKBUFF	07205	POSRNG	00740	PARITY	03201		
PARITYMSG	03212	PAGESIZE	00102	PBLANK	05621		
PBLANK05	05635	PASTOR	06611	PBLANK2	05654		
PBLANK3	05662	PBLANK1	05644	PBLANK5	05666		
PBLANK6	05667	PBLANK4	05665	PCOLIN	05717		
PCOLIN1	05726	PBUF	07274	PCOLIN2	05740		
		PCOLIN1A	05735				

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LABEL	LOC	LABEL	LOC	LABEL	LOC
PCOLIN3	05744	PCOLIN4	05745	PCOLIN5	05746
PCOLR	05670	PCOLR1	05677	PCOLR2	05705
PCOLR3	05710	PCOLR4	05714	PCOLR5	05715
PCOLRG	05716	POLUMN	06223	PENTA	06260
PENTRY	06243	PERIOOAZIM	63523	PERIOOEC	63525
PERIOOEV	63521	PERIOORA	63527	PERR01	06654
PERR015	06660	PERR04	06651	PERR08	06662
PERR09	06663	PERR0R	06613	PERR0R2	06623
PEXTINT	06222	PERASTOR	06056	PFORBSTR	06054
PFORM	05773	PFORMERR	06052	PFO	05557
PFOA	05571	PFOB	05600	PFOC	05607
PFOERR	05614	PFERR1	05620	PPIX	05476
PPIXB	05507	PPIXC	05523	PPIXO	05532
PPIXERR	05550	PPIXERR1	05555	PPIXERR2	05556
PPIXERRA	05551	PPIXF	05543	PFRACA	06540
PFRACB	06560	PFRACERR	06555	PFRACERR1	06562
PFRACSTOR	06526	PGMTABLE	01577	PICKPGH	01477
PIMAGE	05747	PIMAGE1	05766	PIMAGE2	05771
PIMAGE3	05772	PINT	05362	PINTB	05406
PINTC	05415	PINTERR	05432	PINTERR1	05436
PINTERR2	05437	PINTERRA	05433	PINTEXT	05424
PLOAZIM	02507	PLOCAZIM	02511	PLCELEV	02522
PLOCRANGE	02515	PLOOEC	02503	PLOECOOT	02517
PLCELEV	02510	PLORA	02502	PLORA00T	02506
PLORA0IUS	02504	PLORA0SDT	02505	PLORNGOOT	02516
PL0SAZIM	02520	PLOSDC	02514	PL0SORTME	02523
PL0SELEV	02521	PLOSPARE1	02525	PLOSRA	02513
PL0SYSTAT2	02524	PL0TP	63436	PL0TRUNG	02512
PL2RA	02526	PL4RA	02552	PL6AZIM	02603
PL6CAZIM	02605	PL6CELEV	02616	PL6CRANGE	02611
PL6DEC	02577	PL6DECOOT	02613	PL6ELEV	02604
PL6RA	02576	PL6RADOT	02602	PL6RADIJS	02600
PL6RA0SOT	02601	PL6RNGDOT	02612	PL6SAZIM	02614
PL6SOEC	02610	PL6SORTME	02617	PL6SELEV	02615
PL6SPARE1	02621	PL6SRA	02607	PL6SYSTAT2	02620
PL6TRUNG	02606	PLANP	63434	PLAYB8TOR	06315
PLAYUP	06265	PLAYUPA	06301	PLAYUPB	06312
PM8G	03224	POSTOR	06612	PREGION	07206
PRESTORE	06576	PREVIOUSIM	63461	PRINRECSH	63160
PRINT	02665	PRINTOUT	00000	PRINTOVER	02720
PRINTBUFFC	02724	PRINTTITLE	04424	PRINTWD	06231
PRLOG	63423	PRSCRBC	06147	PSAVE	06563
PSCASTOR	06234	PSCQSTOR	06235	PSCRASTOR	06220
PSCRBUF	06134	PSCRIB	06057	PSCRIBA	06067
PSCRIB8	06074	PSCRIB8	06232	PSCRIBO	06233
PSCRIBERR	06162	PSCRIB8	06101	PSCRIBG	06144
PSCRIBH	06103	PSCRIBI	06121	PSCRIBJ	06116
PSCRIBSS	06163	PSCRIBSSA	06240	PSCRIBSSB	06241
PSCRIBSSC	06242	PSCRIBSW	06123	PSCRINT	06202
PSCRQSTOR	06221	PTCOL	01712	PUTCOUNT	04210
PUTCOUNTER	02632	QNSERT	00341	QNSERTA	04516

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LABEL	LOC	LABEL	LOC	LABEL	LOC	LABEL	LOC
QWLOOP	00337	RA	63002	RAOFFSET	63514		
RAOUT	05066	RAOOT	63007	RAOARMODE	63312		
RAOGBXSCAN	63503	RAODEC	02065	RAOECOTIME	63531		
RAOIOEC	63541	RAOIOHETER	63102	RAOIORA	63540		
RAOINOIC	63157	RAOIUS	63006	RAOIUSOOT	63011		
RAHH	04335	RA1NH	04301	RAM	04336		
RANGE	63052	RANGEOUT	70777	RANGEAO	63445		
RANGEOOT	63062	RAPLUS	01674	RASCTNSCAN	63504		
RAS1GN	04334	RASS	04337	RASSXX	04340		
RB27	01642	ROOTOIFS	63123	RO19BITS	05031		
ROAZ	05034	ROBOXLINES	63510	ROCONV	04542		
ROCOSAZ	05044	ROCOSEL	05046	ROCOSPHEE	05073		
ROCOSSITE	05052	ROEGRAO	05067	ROEL	05035		
ROFACT1	05055	ROFACT2	05056	ROIFS	63122		
ROIN1T	04762	ROIN1TINO	05027	ROKI	05037		
ROK11	05040	ROK2	05041	ROK21	05042		
ROMTR	63430	ROPA	04544	ROPE	04545		
RDPG	04550	ROPHEE	05071	ROPR	04546		
ROPS	04547	RORAOIOEG	05063	RORAOIOREV	05070		
RORANGE	05036	ROREVMASK	05032	ROSCALB24	05062		
ROSETK	04607	ROS1NAZ	05045	ROS1NEL	05047		
ROS1NPHEE	05072	ROSINSITE	05053	ROSITEOR	05051		
ROSTART	04551	ROTEMP	05054	ROTHSIXTY	05033		
ROTSF	05043	ROTWSEC	05050	ROWONSEC	05064		
ROWNEREV	05030	ROXSPRIME	05057	ROXX	63433		
ROYSPRIME	05060	ROZSPRIME	05061	READLOOP	00320		
REAO1APE	03074	RECOROSIZE	63112	RECAZ1M	67000		
RECELEV	70000	RECF1LE	63212	RECRO	63415		
RECROSWTCH	63155	REOUNDANT	03772	RELEASESM	63156		
RESETCNT	00274	RESTART	00042	REVITAL	00166		
REWYORN	03461	RSTORALL	03426	SAVEALL	03413		
SAY1T	02021	SAZ1M	63055	SECLTIME	63134		
SOEC	63005	SEARCHTAPE	00173	SECONOS	63140		
SECS	02213	SELEV	63056	SETUP	02672		
SEVENTYONE	07163	SGNOL	01741	SIOERTIME	63012		
SIGN	07173	SIGNCOL	01672	SIMSWITCH	02026		
SIN	05151	SINORIENT	63064	S1NAZEL	63066		
SINGLESP	03745	SIXTIES	07166	SIXTY	07160		
SIXTYFIVE	07161	SK1P	63331	SK1POVER	00347		
SK1PPF	00376	SLAVE	63126	SLAVEOPTS	63124		
SLAVEMOSES	63125	SLAVE	05074	SRA	63004		
STORECR	63136	SSCOL	01702	SSXXCOL	01706		
SRAOTIME	02707	STORELF	02711	STOREPACK	04232		
STOREUNPAK	02650	STANOECSCE	00071	STANOECSY	00073		
STANS	04476	STAT	03323	STATCODE	04012		
STATSTOR	06236	STATUS	06237	STATUSCODE	03137		
STAYLATE	01627	STHR	02060	STM	02061		
STQUES	04467	STRTNOW	01575	STSS	02062		
SUPB8TOR	07050	SUPZRO	07014	SUPZRO1	07025		
SUPZRO2	07026	SUPZRO3	07036	SUPZRO4	07043		
SUPZRO5	07047	SVB3	02661	SVB4	02662		

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LABEL	LOC	LABEL	LOC	LABEL	LOC
SVB5	02663	SYNCTIMING	63542	SYSOMREG1	63452
SYSOMREG2	63453	SYSOMREG3	63454	SYSOMREG4	63455
SYSOMREG5	63456	SYSOMREG6	63457	SYSENTRIES	77600
SYSNAMES	77700	SYSTAT1	63313	SYSTAT2	63314
SYSTATO	63315	TOPOFFPAGE	03743	TOPORNOT	00306
TOPLINE	06226	TOWEWA	03455	TOWEMQ	03441
T1	02274	T2	02326	TALKHENRY	01521
TAPEOPUT	03473	TAPEPARMSG	03225	TELLOONE	04534
TELLHR	02036	TELLMIN	02045	TELLSEC	02054
TELLTOP	01770	TEMP	02204	TENGB16	01765
TIME	02220	TIMEOK	00560	TIMECORR	63107
TIMEMOOE	63103	TIMEP	63435	TIMEOHLO	63520
TITLECNT	02027	TITLEKEY	04415	TRANS	04063
TRANS1	04073	TRANS2	04076	TRANS3	04077
TRANSLATE	04060	TRUERANGE	63063	TRUETIME	63132
TRYAGAIN	03206	TTG	02063	TTISNEG	00520
TYSTATUS	63111	TWOORONE	00405	TWOSECOOP	63017
TWENTYSIXS	06224	UNIT210	03257	UNITNO	03171
UNITNOINT	03136	UNPACK	02623	JNPACK8UFF	07204
UNPACKCODE	02677	UTAGSWITCH	02224	VARYUTAG	00321
VELOFLIGHT	63335	VIZOEC1	63014	VIZOEC2	63016
VIZRA1	63013	VIZRA2	63015	MOROCOUNT	04236
WAIT1	03105	WAITPRINT	02717	WAKEUP	04044
WFORO	63432	WFAO	63450	WFFREQ	63333
WHATOO	00357	WHERE TOGO	00450	WHICHCPGM	01515
WISEGUY	01564	WLOOP	00044	WRITE	03746
WRITEOUT	03756	WRITEAGAIN	03754	WRITEEOF	03253
WRITESERVO	04032	WXLOOPX	01407	YEAR	02177
YEARMONTH	63147	YRTRAN	63327	ZRTRAN	63330

END OF LISTING

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LABEL	LOC	LABEL	LOC	LABEL	LOC
PRINTOUT	00000	NIL	00000	PORUM	00002
FRPERPAGE	00007	FILEDONE	00023	NOREM	00030
RESTART	00042	WLOOP	00044	INSRT	00046
STANDEOCSE	00071	STANDEOCY	00073	NEWTITLE	00100
ASKTIMES	00101	PAGESIZE	00102	CHKCENTM	00136
LETSGO	00164	REVITAL	00166	SEARCHTAPE	00173
NWSRCHTP	00200	LAYUPLMT	00202	KEEPON	00203
AWAYWEGO	00222	LAUNCHED	00234	BASICLOOP	00236
NOTOPPAGE	00270	CARRION	00272	RESETCNT	00274
NOTINSIM	00276	TOPORNOT	00306	REAOLLOOP	00320
VARYUTAG	00321	BACKWOS	00322	BACKWOSA	00325
QWLOOP	00337	QNSERT	00341	SKIPOVER	00347
WHATOO	00357	FNLOOP	00364	GOTHRU	00366
SKIPPF	00376	TWOORONE	00405	FINALIZER	00410
FMJMPBACK	00415	FMEOF53	00424	JUMPBACK	00426
NOWQUES	00427	CHOICEQUES	00431	NOWANS	00443
NOWWHAT	00447	WHEREETOGO	00450	NOWGOTHRU	00451
NOTID	00452	AS\$\$\$11115	00453	AS\$\$\$11116	00457
AS\$\$\$11117	00463	TTISNEG	00520	NOWOOTIME	00524
CHECKMIN	00553	TIMEOK	00560	FILLCHAR	00575
NOWDEC	00611	ISAU	00624	ISEKADII	00637
ARNO	00646	FORAZIM	00667	FORELEV	00700
POSRNG	00740	NOWRAH	00745	BRNO	00760
MORESTUFF	01154	LOOPX	01223	FORAZIN	01232
FORELIN	01253	FORAZOUT	01266	FORELOUT	01307
FOROPOUT	01350	AVANBI	01374	CNTRPT	01376
ISIO	01403	WLOOPX	01407	DAMIC	01411
MOVER	01427	AS\$\$\$11118	01430	PICKPGM	01477
WHICHCPGM	01515	TALKHENRY	01521	ARNOHEAO	01525
ARNOHENRY	01536	AS\$\$\$1111C	01537	MORELOOK	01545
NOTZERO	01551	GETOUT	01554	AQJUSTBUFR	01561
WISEGUY	01564	AS\$\$\$11110	01565	STHTNOW	01575
PGMTABLE	01577	STAYLATE	01627	CHKOVLP	01632
KOVRAP	01641	RB27	01642	PORA	01647
HMCOL	01664	SIGNCOL	01672	RAPLUS	01674
MMCOL	01676	SSCOL	01702	SSXCOL	01706
PTCOL	01712	BASICCOLRA	01715	PODEC	01716
OOCOL	01733	SGMCOL	01741	DECPLJS	01743
OMINCOL	01745	DSECCOL	01751	DSSXCOL	01755
OPTCOL	01761	BASICCOLLOC	01764	TENGB16	01765
FORROPA	01766	FORROPE	01767	TELLTOP	01770
FILLBLNK	02004	FILLNEG	02005	EVERYN	02006
SAYIT	02021	BRANDNEW	02025	SIMSWITCH	02026
TITLECNT	02027	ASKHR	02030	TELLHR	02036
ASKMIN	02042	TELLMIN	02045	ASKSEC	02051
TELLSEC	02054	STHR	02060	STMM	02061
STSS	02062	TTG	02063	D360820	02064
RAODEC	02065	INSERTA	02066	HOWMANY	02067
HEAD	02070	HFAOKEY	02126	MONTH	02127
OAYS	02161	YEAR	02177	DAYNO	02200
COMMA	02201	E	02202	TEMP	02204

SPURT OUTPUT NO. 212

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PRINTOUT

LABEL	LOC	LABEL	LOC	LABEL	LOC
HOURS	02211	MINS	02212	SECS	02213
FOROOP	02214	NOPTS	02215	DELTIME	02216
FX	02217	TIME	02220	MSWITCH	02221
IRSWITCH	02222	UTAGSWITCH	02224	OATASWITCH	02226
AZINSW	02230	ELINSW	02232	AZOUTSW	02234
ELOUTSW	02236	OPPOUTSW	02240	MYHEAD	02242
T1	02274	T2	02326	BIGT	02360
MYOUT	02406	PLORA	02502	PLODEC	02503
PLORA01US	02504	PLORA0SOT	02505	PLORA0OT	02506
PLOAZIM	02507	PLOELEV	02510	PLOCAZIM	02511
PLOTURNG	02512	PLOSRA	02513	PLOSOEC	02514
PLOCRANGE	02515	PLORNGOOT	02516	PLOOECOOT	02517
PLOS0AZIM	02520	PLOSELEV	02521	PLOCELEV	02522
PLOSORTIME	02523	PLOSYSSTAT2	02524	PLOSPAREI	02525
PL2RA	02526	PLHRA	02552	PL6RA	02576
PL60EC	02577	PL6RA01US	02600	PL6RA0SOT	02601
PL6RA0OT	02602	PL6AZIM	02603	PL6ELEV	02604
PL6CAZIM	02605	PL6TRUNG	02606	PLOSRA	02607
PL6SOEC	02610	PL6CRANGE	02611	PL6RNGOOT	02612
PL60ECOOT	02613	PL6SAZIM	02614	PL6SELEV	02615
PL6CELEV	02616	PL6SORTIME	02617	PL6SYSSTAT2	02620
PL6SPARE1	02621	INSERTX	02622	UNPACK	02623
PUTCOUNTER	02632	LOOPSTART	02644	GETPACK	02645
LOOP1	02646	STOREUNPAK	02650	LOOPLIMIT	02653
SVB3	02661	SVB4	02662	SVB5	02663
COUNTER	02664	PRINT	02665	SETUP	02672
UNPACKCODE	02677	STORECR	02707	STORELF	02711
CHGAOR	02714	WAITPRINT	02717	PRINTOVER	02720
JPRINTOVR	02723	PRINTBUFFC	02724	BUFFERPRNT	02725
REOTAPE	03074	INBUFFER	03101	WAIT1	03105
C15EXTINT	03106	INTERJUMP	03114	BACK	03115
INTERLOCK	03116	INTERLOCKP	03123	LOCKP	03131
UNITNOINT	03136	STATUSCODE	03137	MACHFAULT	03157
UNITNO	03171	F0STATCODE	03176	JPC15EXT	03200
PARITY	03201	TRYAGAIN	03206	PARITYMSG	03212
PM5G	03224	TAPEPARMSG	03225	FOTAPEPAR	03240
WRITEEOF	03253	UNIT210	03257	BAONEWS	03260
MACHERR	03266	KOCTTOFO	03304	UUMMY	03320
EXCESS60	03322	STAT	03323	INPUTAPEVO	03324
EOTNEWS	03330	E0FNEWS	03343	ENO0FTAPM	03353
ENOTAPEM	03362	HSP0UTPUT	03370	BCO0UTPUT	03371
BCOQUES	03372	BCOANS	03406	ANS0UTPUT	03412
SAVEALL	03413	RSTORALL	03426	T0REWQ	03441
T0REWA	03455	REWYORN	03461	KPA	03462
KPQ	03463	KP1	03464	KP2	03465
KP3	03466	KP4	03467	KP5	03470
KP6	03471	KP7	03472	TAPE0PUT	03473
BCOBL0CK	03506	CARRIAGEC	03540	LAI00UT	03541
TOPOFFPAGE	03743	00U8LESP	03744	SINGLESP	03745
WRITE	03746	WRITEAGAIN	03754	WRITE0JT	03756
HERE	03757	JPINTERRUP	03760	INTERRUP	03761

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LABEL	LOC	LABEL	LOC	LABEL	LOC
INT JUMP	03766	BAOMCH	03767	REOUNOANT	03772
ENOTAPE	04001	INTERLCK	04006	CHANNEL	04011
STATCODE	04012	WRITESERVO	04032	NEHTAPE	04033
WAKEUP	04044	TRANSLATE	04060	TRANS	04063
TRANS1	04073	TRANS2	04076	TRANS3	04077
COUNT	04103	OICIONARY	04104	PACK	04204
PUTCOUNT	04210	LOOPSTART2	04224	LOOP2	04226
GETCHAR	04227	STOREPACK	04232	LOOPLIMIT2	04233
WOROCOUNT	04236	ENOTAPEU	04237	DECINOMS	04240
OECISGN	04271	036083	04272	OECEG	04273
OECHIN	04274	DECEC	04275	OECECXX	04276
NEGSIGN	04277	DECPPOINT	04300	RAINHH	04301
02483	04332	D6081	04333	RASIGN	04334
RAHH	04335	RAHH	04336	RASS	04337
RASSXX	04340	LABELA	04341	LABELB	04367
TITLEKEY	04415	ANNTITLE	04416	PRINTTITLE	04424
MUTE	04426	BEHEADED	04460	STQUES	04467
STANS	04476	ANSSTTH	04502	ETQUES	04503
ETANS	04512	QNSERTA	04516	ANSENOMT	04517
COMPAREST	04520	COMPAREET	04521	MAXETIME	04522
OMSHRS	04523	DMWINS	04524	OMSECS	04525
OMEHRS	04526	DMWINS	04527	OMSECS	04530
OMSECTTG	04531	DMESECTG	04532	CSKEY	04533
TELLOONE	04534	ASTARX	04541	ROCONV	04542
ROPA	04544	RDPE	04545	ROPR	04546
ROPS	04547	RDPG	04550	ROSTARI	04551
ROSETK	04607	RDINIT	04762	ROINITIND	05027
ROWNEREV	05030	RD19BITS	05031	ROREVMASK	05032
ROTHSIXTY	05033	RDZ	05034	ROEL	05035
RORANGE	05036	RDK1	05037	ROK11	05040
ROK2	05041	RDK21	05042	ROTSF	05043
ROCOSAZ	05044	RD SINAZ	05045	ROCOSEL	05046
ROSINEL	05047	RDWSEC	05050	ROSITEOR	05051
ROCOSSITE	05052	RD SIN SITE	05053	ROTEMP	05054
ROFACT1	05055	RDFACT2	05056	ROXSPRIME	05057
ROYSPRIME	05060	RDZSPRIME	05061	ROSCALB24	05062
RORAOTOOEG	05063	RDWONSEC	05064	ROECOUT	05065
RAOUT	05066	RDDEGRAD	05067	ROAOTOREV	05070
ROPHEE	05071	RD SINPHEE	05072	ROCOSPHEE	05073
SQRT	05074	COS	05140	SIN	05151
ATAN	05257	PINT	05362	PINTB	05406
PINTC	05415	PINTEXIT	05424	PINTERR	05432
PINTERRA	05433	PINTERR1	05436	PINTERR2	05437
POCT	05440	POCTA	05455	POCTB	05465
POCTERR	05471	POCTERR1	05475	PPIX	05476
PPIXB	05507	PPIXC	05523	PPIXO	05532
PPIXF	05543	PPIXERR	05550	PPIXERRA	05551
PPIXERR1	05555	PPIXERR2	05556	PFO	05557
PFOA	05571	PFOB	05600	PFOC	05607
PFOERR	05614	PFOERR1	05620	PBLANK	05621
PBLANK05	05635	PBLANK1	05644	PBLANK2	05654

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LABEL	LOC	LABEL	LOC	LABEL	LOC	LABEL	LOC
PBLANK3	05662	PBLANK4	05665	PBLANK5	05666	PBLANK5	05666
PBLANK6	05667	PCOLR	05670	PCOLR1	05677	PCOLR1	05677
PCOLR2	05705	PCOLR3	05710	PCOLR4	05714	PCOLR4	05714
PCOLR5	05715	PCOLRG	05716	PCOLIN	05717	PCOLIN	05717
PCOLIN1	05726	PCOLINIA	05735	PCOLIN2	05740	PCOLIN2	05740
PCOLIN3	05744	PCOLIN4	05745	PCOLIN5	05746	PCOLIN5	05746
PIMAGE	05747	PIMAGE1	05766	PIMAGE2	05771	PIMAGE2	05771
PIMAGE3	05772	PFORM	05773	OELTAD	06000	OELTAD	06000
PFORMERR	06052	PFORBSTR	06054	PFORASTOR	06056	PFORASTOR	06056
PSCRIB	06057	PSCRIBA	06067	PSCRIBB	06074	PSCRIBB	06074
PSCRIBF	06101	PSCRIBH	06103	PSCRIBJ	06116	PSCRIBJ	06116
PSCRIBI	06121	PSCRIBSW	06123	PSCRIBUF	06134	PSCRIBUF	06134
PSCRIBG	06144	PRSCRIBC	06147	PSCRIBERR	06162	PSCRIBERR	06162
PSCRIBSS	06163	PSCRINT	06202	PSCRASTOR	06220	PSCRASTOR	06220
PSCRQSTOR	06221	PEXTINT	06222	PCOLUMN	06223	PCOLUMN	06223
TWENTYSIXS	06224	BOTMARG	06225	TOPLINE	06226	TOPLINE	06226
BOTLINE	06227	LINCNT	06230	PRINTWO	06231	PRINTWO	06231
PSCRIBC	06232	PSCRIBO	06233	PSCASTOR	06234	PSCASTOR	06234
PSQSTOR	06235	STATSTOR	06236	STATUS	06237	STATUS	06237
PSCRIBSSA	06240	PSCRIBSSB	06241	PSCRIBSSC	06242	PSCRIBSSC	06242
PENTRY	06243	PENTA	06260	SETA00	06264	SETA00	06264
PLAYUP	06265	PLAYUPA	06301	PLAYUPB	06312	PLAYUPB	06312
PLAYBSTOR	06315	LAYUPSTOR	06322	CHARVO	06525	CHARVO	06525
PFRACSTOR	06526	PFRACA	06540	PFRACERR	06555	PFRACERR	06555
PFRACB	06560	PFRACERR1	06562	PSAVE	06563	PSAVE	06563
PRESTORE	06576	PASTOR	06611	POSTOR	06612	POSTOR	06612
PERRORR	06613	PERRORR2	06623	PERROR4	06651	PERROR4	06651
PERROR1	06654	PERROR15	06660	PERROR3	06662	PERROR3	06662
PERROR9	06663	BINOECINT	06664	BINOECINT1	06676	BINOECINT1	06676
BINOECINT2	06677	BINOECINT4	06712	BINOECINT3	06714	BINOECINT3	06714
BINOCTFLO	06715	BINOCTFLO1	06721	BINOCTFLO2	06722	BINOCTFLO2	06722
BINOCTFLO3	06731	BINOECFRA	06733	BINOECFRA1	06743	BINOECFRA1	06743
BINOECFRA2	06744	COFFIX	06756	COFFI	06772	COFFI	06772
COFFTEM1	07010	COFFTEM2	07011	COFXSTOR	07012	COFXSTOR	07012
SUPZRO	07014	SUPZRO1	07025	SUPZRO2	07026	SUPZRO2	07026
SUPZRO3	07036	SUPZRO4	07043	SUPZRO5	07047	SUPZRO5	07047
SUPBSTOR	07050	COFRVO	07053	COFRNO1	07064	COFRNO1	07064
COFRNO2	07066	COFRNO3	07070	COFRNO4	07074	COFRNO4	07074
COFRNO41	07077	COFRNO5	07102	COFRNO51	07112	COFRNO51	07112
COFRNO52	07117	COFRNO6	07122	COFRNO7	07125	COFRNO7	07125
COFRNO8	07132	COFRNO81	07141	COFRNO9	07144	COFRNO9	07144
COFRNO10	07150	COFRNO11	07153	HIBIT	07157	HIBIT	07157
SIXTY	07160	SIXTYFIVE	07161	M6L	07162	M6L	07162
SEVENTYONE	07163	BIT5	07164	FXCODE	07165	FXCODE	07165
SIXTIES	07166	GAMMA	07167	BETA	07170	BETA	07170
INTEGER	07171	FRACTION	07172	SIGN	07173	SIGN	07173
EXPONENT	07174	FPFRACTION	07175	IOINTEGER	07176	IOINTEGER	07176
IOFRACTION	07200	IOEXPONENT	07202	EXPSIGN	07203	EXPSIGN	07203
UNPACKBUFF	07204	PACKBUFF	07205	PREGION	07206	PREGION	07206
PBUF	07274	AS\$\$\$\$1111	07476	AS\$\$\$\$1112	07477	AS\$\$\$\$1112	07477
AS\$\$\$\$1113	07500	AS\$\$\$\$1114	07501	AS\$\$\$\$111B	07502	AS\$\$\$\$111B	07502

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PRINTOUT

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LABEL	LOC	LABEL	LOC	LABEL	LOC
A\$\$\$\$1119	07503	A\$\$\$\$111A	07504	A\$\$\$\$111E	07505
A\$\$\$\$111F	07506	A\$\$\$\$111G	07507	A\$\$\$\$111H	07510
A\$\$\$\$111I	07511	A\$\$\$\$111J	07512	A\$\$\$\$111K	07513
A\$\$\$\$111L	07514	IO1CELCOR	63000	DATA	63000
IO2CELCOR	63001	RA	63002	OEC	63003
SRA	63004	SOEC	63005	RAOIUS	63006
RAOOT	63007	OECOOT	63010	RAOIUSOOT	63011
STOERTIME	63012	VIZRA1	63013	VIZOEC1	63014
VIZRA2	63015	VIZOEC2	63016	TWOSECOOP	63017
IO1RAOCOR	63050	IO2RAOCOR	63051	RANGE	63052
AZIM	63053	ELEV	63054	SAZIM	63055
SELEV	63056	CRANGE	63057	CAZIM	63060
CELEV	63061	RANGEOOT	63062	TRUERANGE	63063
SINORIENT	63064	COSORIENT	63065	SINAZEL	63066
COSAZEL	63070	ACOAZIM	63071	ACQELEV	63075
FRAMESIZE	63101	RAOIOMETER	63102	TIMEMOOE	63103
FIRSTELEV	63104	ASTRORA	63105	ASTROOEC	63106
TIMECORR	63107	KYBROLEVEL	63110	TTSTATUS	63111
RECOROSIZE	63112	CELBOOY	63113	AZOIFS	63120
ELOIFS	63121	ROIFS	63122	ROOTOIFS	63123
SLAVEOPTS	63124	SLAVEMOES	63125	SLAVE	63126
IO1TIME	63130	IO2TIME	63131	TRUETIME	63132
CELTIME	63133	SCELTIME	63134	CONVERTIME	63135
SRAOTIME	63136	HOURLMINUTE	63137	SECONOS	63140
OSECONOS	63141	ACTUALTIME	63142	ESTSHIFTED	63143
GMTSHIFTED	63144	GMTMOOU24	63145	BLASTOFF	63146
YEARMONTH	63147	OAY	63150	HOUREG	63151
MINREG	63152	FIRSTTHRU	63153	OUMSECTTG	63154
RECROSWTCH	63155	RELEASESH	63156	RAINOIC	63157
PRINRECSW	63160	IO1RECRD	63210	IO2RECRD	63211
RECFILE	63212	IO1SYSPAR	63310	IO2SYSPAR	63311
RAOARMODE	63312	SYSTAT1	63313	SYSTAT2	63314
SYSTATO	63315	DELTATEE	63316	FREQUENCY	63317
LONGITUDE	63320	GEOE TLAT	63321	GEOENLAT	63322
EQUATOR	63323	POLE	63324	AZIMOVER	63325
HEIGHT	63326	YRTRAN	63327	ZRTRAN	63330
SKIP	63331	MSFREQ	63332	WFFREQ	63333
MAINSWITCH	63334	VELOFLIGHT	63335	LSPERAU	63336
FLATTENING	63337	NMPERAU	63340	AUPEREQUAT	63341
KMPERNM	63342	EXPNAME	63350	IO1ENTPNT	63410
IO2ENTPNT	63411	MCPGM	63412	INTER	63413
COCON	63414	RECRD	63415	AOSCN	63416
AESCN	63417	CORCT	63420	OYOMP	63421
CHCOR	63422	PRLOG	63423	CELCOMPGM	63424
OATANALYZE	63425	INTERCOM	63426	ACQUI	63427
ROMTR	63430	CHPAR	63431	WFORO	63432
RCCXX	63433	PLANP	63434	TIMEP	63435
PLOT	63436	IO1RAO10	63440	IO2RAO10	63441
AZIMADO	63442	ELEVAO0	63443	OOPPAO0	63444
RANGEAO0	63445	INAZIMAO0	63446	INELEVAO0	63447
WFAO0	63450	MILLSTNAO0	63451	SYSCOMREG1	63452

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LABEL	LOC	LABEL	LOC	LABEL	LOC
SYSCOMREG2	63453	SYSCOMREG3	63454	SYSCOMREG4	63455
SYSCOMREG5	63456	SYSCOMREG6	63457	INTERLCKSM	63460
PREVIOUSIM	63461	BOOYSIZE	63462	AZELBXSCAN	63500
AZMTHSCAN	63501	ELVTNSCAN	63502	RADC8XSCAN	63503
RASCTNSCAN	63504	OECLINSCAN	63505	ALNGACRSCN	63506
AEBOXLINES	63507	ROBOXLINES	63510	HOLONOHOL	63511
AZIMOFFSET	63512	ELEVXOFFSET	63513	RAOFFSET	63514
OECONFSET	63515	CRSSOFFSET	63516	ALNGOFFSET	63517
TIMETOHOL	63520	PERIOOELEV	63521	ARCOFELEV	63522
PERIOOAZIM	63523	ARCOFAZIM	63524	PERIOOEC	63525
ARCOFOEC	63526	PERIOORA	63527	ARCOFRA	63530
RADECOTIME	63531	AZELOTIME	63532	RAOIORA	63540
RAOIOOEC	63541	SYNCTIMING	63542	I03RAOIO	63776
I04RAOIO	63777	AZIMOUT	64000	I05RAOIO	64776
I06RAOIO	64777	ELEVOUT	65000	I07RAOIO	65776
I08RAOIO	65777	OOPPOUT	66000	I09RAOIO	66776
I010RAOIO	66777	RECAZIM	67000	I011RAOIO	67776
I012RAOIO	67777	RECELEV	70000	I013RAOIO	70775
I014RAOIO	70776	RANGEOUT	70777	MCPFILLER	71000
OATA2	71000	I015RAOIO	71776	I016RAOIO	71777
INTERAZIM	72000	AZOUTEQ	72000	I017RAOIO	72776
I018RAOIO	72777	INTERELEV	73000	ELOUTEQ	73000
I019RAOIO	73776	I020RAOIO	73777	OOPPOUTEQ	74000
INTEROOPP	74000	I021RAOIO	74776	I022RAOIO	74777
AZINEQ	75000	AZIMIN	75000	I023RAOIO	75776
I024RAOIO	75777	ELEVIN	76000	ELINEQ	76000
I025RAOIO	76775	I026RAOIO	76776	INTERRANGE	76777
I01SYSNT	77576	I02SYSNT	77577	SYSENTRIES	77600
I01SYSNAM	77676	I02SYSNAM	77677	SYSNAMES	77700

END OF LISTING

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13. ABSTRACT During the operation of the Haystack Pointing System, variable amounts of system generated data are recorded on magnetic tape for purposes of later reconstruction of the pointing aspect of the experiment. The Print Program, a pseudo-celestial computation program, is the means whereby this system data, recorded during actual system operation or during a system planning run, is reconstituted in the form of print-outs for immediate inspection or as BCD magnetic tape equivalents of the print-outs for remote printing and for input to other programs. The Print Program provides a variety of operation options which can be altered dynamically.		
14. KEY WORDS Haystack Pointing System Print Program		
pseudo-celestial computation program system data		